CECIL FIELD NAVAL AIR STATION
CECIL FIELD, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CINCLANTFLT
Size: 31,366 Acres
Funding to Date: $16,876,000
Estimated Funding to Complete: $51,790,000

Base Mission: Provides facilities, services and material support for the operation and maintenance of Naval weapons and aircraft to activities and units of the operating force as designated by the CNO

Contaminants: Heavy metals, halogenated aliphatics, phthalate esters, polynuclear aromatic hydrocarbons

Number of Sites:	
CERCLA:	18
RCRA Corrective Action:	1
RCRA UST:	6
Total Sites:	25

Relative Risk Ranking of Sites:			
High:	15	Not Evaluated:	0
Medium:	6	Not Required:	2
Low:	2		

NPL | BRAC III

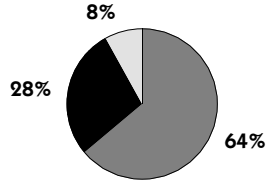
Sites Response Complete: 2

EXECUTIVE SUMMARY

Naval Air Station (NAS) Cecil Field is located primarily in Duval county, and partially in Clay County, Florida. Downtown Jacksonville, Florida is approximately 14 miles northeast of the installation's main entrance. The typical air station operations that contributed to the contaminated sites on the facility include: equipment maintenance, fuel and oil storage and disposal, fire training, and target ranges. Groundwater, surface water, and soil contamination resulted from installation operations. Current operations include pollution prevention technologies to prevent further contamination. NAS Cecil Field was placed on the National Priorities List (NPL) primarily due to the presence of the organic solvent TCE in the soil and the resulting groundwater plume at Site 16, the Aircraft Intermediate Maintenance Department (AIMD) Seepage Pit. There was also concern about lead contamination in the soil at Site 15, an ordnance disposal/ shooting range site.

The area surrounding the station is rural in character and sparsely populated. Jacksonville is the only appreciably sized city in the area. Contaminants have migrated downward to the shallow aquifer at numerous sites and to a deeper aquifer at one site. However, no contaminated groundwater has migrated off base. Surface water contamination has occurred in numerous ditches and creeks that drain into several larger nearby water bodies located on base, including Lake Fretwell, Rowell Creek, and Sal Taylor Creek. However, no contaminated surface water has been detected off base.

Work for the Navy's Installation Restoration Program (IRP) got underway at NAS Cecil Field in 1984. The Initial Assessment Study (IAS) identified 18 CERCLA sites. Since that time, an additional 6 Underground Storage Tank (UST) sites have been added to the program and one RCRA Corrective Action site (SWMU 1) was added in FY88. An additional 250 gray area sites, potential official sites were discovered during the Environmental Baseline Survey (EBS). Confirmatory sampling was conducted on the gray area sites from FY95 and will continue into FY97.



Current Status Of Sites

Studies Underway	16
Cleanups Underway	7
Response Complete	2
TOTAL	25

Most of these potential sites go no further than this sampling, and others have extremely minor cleanups which the study contractor completes while taking the samples. If or when any of these potential sites uncover any extensive cleanup, they will be transferred into the official IR program. One UST tank site (UST 6, 103rd St. pipeline) will be officially transferred to NAS Jacksonville's IR program in FY97. To date 7 IRAs have been completed, involving Sites 5, 11, 16, 17 and 18, and another IRA , at Site 5, is still underway Final Remedial Actions (RA) will begin at Sites 1 and 2 in FY97, having been delayed because additional sampling information was needed. RA's were not initiated at an additional 9 sites in FY96, due to shifting funding priorities within the Navy BRAC program.

In order to conduct the cleanup in an orderly manner, 12 of the sites at NAS Cecil Field, identified during the PA/SI have been divided into 7 Operable Units (OUs) based on the types of wastes disposed or typical profile of suspected contaminants. OU 1 (Sites 1 and 2) are landfills. OU 2 (Sites 5 and 17) are oil/sludge disposal areas. OU 3 (Sites 7 and 8) are fire training areas. OU 4 (Site 10) is a rubble disposal area. OU 5 (Sites 14 and 15) are ordnance disposal areas. OU 6 (Site 11) is a pesticide disposal area. OU 7 (Site 16) is the AIMD seepage pit. OU 8 (Site 3) is an oil/sludge disposal area. The remaining Sites, 4, 6, 9, 12, 18 and 19 are referred to as Potential Sources of Contamination (PSCs).

Several major successes in the cleanup program at Cecil Field have taken place. Risk reduction IRAs have been accomplished by source (soil) removal at Sites 11, 16, 17. Additionally, source removal has been accomplished at the North Tank Fuel Farm and the Truck Stand. Source removal is currently underway at Site 5. Innovative technologies are being used where appropriate. Intrinsic bioremediation (natural attenuation) of groundwater for petroleum products and TCE is being used at Site 17 (Oil/ Sludge Disposal Pit-Southwest) and is proposed at Site 8 (Fire Fighting Training Area) and Site 3 (Oil/Sludge Disposal Area). Bioslurpping is currently underway at the North Tank Fuel Farm for free-product removal and bioventing of the soils. The initial soil remediation of Site 5 soils was accomplished via ex-situ bioremediation. The remaining Site 5 soil remediation will be accomplished via bioventing in conjunction with groundwater remediation via air sparging. At the south Fuel Farm, bioventing is the chosen remediation for soils and air sparging for groundwater remediation.

CECIL FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - There are three aquifers of concern at NAS Cecil Field: the surficial, the shallow rock and the Floridan. The unconfined surficial aquifer occurs at or near the surface and is primarily recharged by local rainfall. Contaminants easily enter the surficial aquifer due to its close proximity to the surface and the permeability of the sandy soil common in the area. Contamination can migrate downward into the shallow rock aquifer. Migration by surface water is also a potential pathway since there are numerous ditches and creeks throughout the installation. The major receiving waters on base include Lake Fretwell, Rowell Creek, and Sal Taylor Creek.

Five CERCLA sites and 4 tank sites have contaminated groundwater plumes in the upper aquifer. Since drinking water wells at the NAS do not tap the surficial aquifer, the direct impact to potable water sources is not anticipated. The presence of confining clay sediments and artesian conditions impedes downward migration from the surficial aquifer to the shallow rock aquifer at most sites. However, at the North Tank Fuel Farm contamination has migrated down and into the shallow rock aquifer. NAS Cecil Field and the majority of the surrounding areas receive their potable water from the deep Floridan aquifer which is protected by an extensive confining layer.

NATURAL RESOURCES - Aquatic organisms, in the receiving waters of surface and groundwater migrating from NAS Cecil Field, and animals which rely on these areas for feeding and water are the primary, potential receptors. These receiving waters are classified by the Florida Department of Environmental Regulation as Class III Water - Recreation, Propagation and Management of Fish and Wildlife. Base personnel who fish Lake Fretwell are also potential receptors. Lake Fretwell, located on the base, was closed to fishing due to discovery of low level PCBs in the fish. A more comprehensive fish study shall be performed in FY97.

RISK - In FY95, Baseline Human Health and Ecological Risk Assessments (BRA) were completed, following EPA guidance, for CERCLA Sites 1, 2, 5 and 17. In FY96 BRA was completed for site 16. In FY97, BRAs are scheduled for completion at sites 7, 8, 10, 11, 14, 15, and 16. In FY 98, BRAs are scheduled for Sites 4, 6, 9, 12, 18 and 19. The Baseline Human Health and Ecological Risk Assessments for Sites 1 and 2 determined that there is no human health risk, only micro-organisms are at risk. At Sites 5 and 17, the BRA revealed a human health risk only if you drink the groundwater, and an ecological risk due to runoff and shallow groundwater discharging to nearby drainage ditches and wetlands. At Site 16, again there was a human health risk if you drank the groundwater and a ecological risk due to groundwater discharging to nearby drainage ditches.

The Navy completed a Relative Risk Ranking for the installation in FY95. Fifteen of the 25 sites at Cecil Field received a "High" risk ranking. Though the majority of the high ranked sites were landfills and disposal sites, there was also high ranked contamination found at a firing range and fire fighting training sites. Groundwater was the media of greatest concern, 8 of the 15 high ranked sites were found to have current or the potential for contaminated groundwater. Two other media types received several high ranks; sediment had a high score at seven sites and surface water ranked high at six sites. Both these media had either evidence of or potential for a path to human receptors.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Cecil Field was placed on the National Priorities List (NPL) in December of 1989 with an HRS score of 31.99. Placement on the list was driven by the presence of the solvent TCE in the soil and the groundwater at Site 16. There was also concern about lead contamination at Site 15, an ordnance disposal area and shooting range site.

LEGAL AGREEMENTS - A Federal Facility Agreement (FFA) was signed in FY91 between the Navy, EPA, and the Florida Department of Environmental Protection (FDEP). The FFA identified sites for Remedial Investigation and Feasibility Study (RI/FS) activities and further screening. Based on the FFA, a Site Management Plan (SMP) was implemented in FY92 and is updated annually. A consent agreement with the state of Florida allows the station to operate tanks which are out of compliance until FY00. The Florida Petroleum Contamination Agreement allows the Navy to establish and manage the Underground Storage Tanks (USTs) cleanup program. A RCRA Hazardous and Solid Waste Amendments (HSWA) permit was issued in October 1987.

PARTNERING - The installation has encouraged partnerships with federal and state regulatory agencies and promoted public involvement by coordinating with local regulatory agencies, natural resource trustees, and other interested agencies and organizations. Because of this partnering team approach to solving problems, the amount of time required for the installation's sites to proceed from the investigation phase to the remedial process has been reduced. An example is that work plans are being put in place more quickly because agreements are reached on what is to go into the plans before they are written so that they can be accepted and implemented without delay for reviews and rewrites.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - In an effort to keep the community informed of the cleanup progress at the installation, a Technical Review Committee (TRC) was formed in FY91. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in September 1994. There are 12 active community members on the RAB. Meetings are held on a monthly basis. The public has a positive view of the Station and they are involved in the decision making and review process. The RAB acts as a conduit for information dissemination to the local community. They show little concern over potential contamination because they have a high degree of trust for the BCT and the cleanup program.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was developed in FY91.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in FY91. They are available to the public at the Westconett Library in Jacksonville, Florida.

BASE REALIGNMENT AND CLOSURE

BRAC - In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of NAS Cecil Field and relocation of its aircraft, dedicated personnel, and equipment to MCAS Cherry Point, North Carolina; NAS Oceana, Virginia; and MCAS Beaufort, South Carolina. The 1995 BRAC Commission redirected the relocation to include NAS Jacksonville, Florida and NAS Atlanta, Georgia. Additionally, OLF Whitehouse was redirected to NAS Jacksonville in lieu of closing.

BRAC CLEANUP TEAM - The installation's BRAC Cleanup Team (BCT), formed in FY94, is made up of a Navy representative, an EPA Region IV member and a representative from FDEP. The BCT has secured a C.L.E.A.N. contractor for conducting studies and a Remedial Action Contractor for cleanup activities.

CECIL FIELD NAS
RELEVANT ISSUES

DOCUMENTS - As a result of BRAC, NAS Cecil Field completed the Environmental Baseline Survey (EBS) in November 1994 and completed the BRAC Cleanup Plan (BCP) in March 1994.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
16,148 acres	45 acres	20 acres	0 acres	20 acres	91 acres	1,259 acres

REUSE - During FY95, the installation finalized the EBS and a BRAC Land Reuse Plan. The NAS reuse plan provides for the base property and facilities to remain an aviation facility. Additionally, provisions were made for light and heavy industrial to locate on the property as well as recreational areas for the local community and areas to be forested. Potential lessors or buyers that fit the re-use plan are now being sought. By January1997, two parcels will have a Finding of Suitability to Lease (FOSL) signed and one parcel will have a Finding of Suitability to Transfer (FOST) signed. Regulatory concurrence for the Community Environmental Response Facilitation Act (CERFA) clean acreage was obtained. The Environmental Impact Statement (EIS) is scheduled to become final in April 97 with the signing of the ROD soon thereafter. Reuse interest is expected to escalate drastically six to twelve months prior to operational closure currently set for FY99.

FAST TRACK INITIATIVES - As a BRAC installation, NAS Cecil Field will make use of "Fast Track Initiatives": (1) compressed schedules; (2) improved communications; (3) eliminate redundant actions; (4) increase concurrent activities; (5) maximize direct-push technology; and (6) partnering with regulatory agencies and contractors.

HISTORICAL PROGRESS

FY85

Sites 1-12 and 14-19 - The Initial Assessment Study (IAS) was completed in July 1985 and identified 18 potentially contaminated sites.
UST 5 (Day Tank 1) - The Initial Site Characterization (ISC), was completed.

FY88

RCRA HSWA permit issued.
Sites 1-12 and 14-19 - A Site Inspection (SI), completed in March 1988, addressed all 18 CERCLA sites.
SWMU 1 - A RCRA Facility Assessment (RFA) was completed for SWMU 1.

FY90

Placed on the NPL.

FY91

FFA was signed.
CRP was completed.
The Information Repository was established.
Site 13/UST 5 (Day Tank 1)- After initial testing at Site 13 indicated only petroleum contamination, the site was transferred to the UST program, as UST 5, for remediation.

FY92

Site Management Plan (SMP) was completed. Updated annually.
USTs 1 (North Tank Fuel Farm) and 6 (103rd St. Pipeline) - An ISC was completed for two UST sites.

FY93

Sites 1, 2, 5, 11 and 17 - Remedial Investigation/Feasibility Study (RI/FS) activities were started at five CERCLA sites.
Sites 5, 11, 16 and 17 - In order to meet a fast deadline, a Focused Feasibility Study (FFS) was completed and four Interim Records of Decision (IRODs) were prepared.
SWMU 1 - A Corrective Measures Study (CMS), completed in March 1993 recommended the removal of the tank.
UST 3 (Detachment ASTOR Motorpool) - An ISC was completed.
UST 5 (Day Tank 1) - An investigation was completed in September 1993.
UST 6 (103rd St. Pipeline) - A Corrective Action Report (CAR) was completed.

FY94

BCP was completed.
RAB was established from the previous TRC.
Sites 3 and 14-16 - RI/FS activities were started at four CERCLA sites.
Site 11 - An IROD for removal of pesticide drums and contaminated soil was signed in September 1994.
Site 16 - An IROD was signed in May 1994 and 2 IRAs were completed in July 1994. The IRAs called for the removal of a RCRA-permitted storage tank as well as the contaminated soils.
SWMU 1 - The CMI was begun in May with the work to include removal of the tank and removal of contaminated soil.
USTs 2 (South fuel Farm) and 3 (Detachment ASTOR Motorpool) - Interim Corrective Measures were completed. Tank and soil removal completed at UST 2. CAR phase, including tank removals, and Implementation phase (IMP) completed at UST 3.
UST 6 (103rd St. Pipeline) - IMP phase was started. Approximately 25% of the installation's USTs were also removed.
IRODs were also signed for Sites 5 and 17, bringing the total IRODS prepared and signed to four for FY94.

FY95

EBS was completed.
BRAC Land Reuse Plan completed.
Sites 1 and 2 - Submitted final RI/FS and BRA. ROD signed and submitted to regulatory agencies.
Sites 5 and 17 - IRA started at both sites. Submitted final RI/FS and BRA. ROD signed and submitted to regulatory agencies.
Sites 7 and 8 - Completed RI/FS workplan. Completed confirmation sampling.
Site 10 - Completed RI/FS workplan. Completed confirmation sampling.
Site 15 - Completed RI/FS workplan and Confirmation program completed.
Site 11 - RI/FS workplan completed. 2 IRAs initiated and completed..
Site 16 - Final RI/FS completed. RD was completed. .
Site 3 - Draft RI/BRA/FS submitted.
SWMU 1 - Corrective Measures Implementation (CMI) completed and site listed as Response Complete (RC).
UST 2 (SFF) - ISC completed.
UST 3 (Detachment ASTOR Motorpool)- Listed as RC and received Site Close-out in March 1995.
BRAC EBS Gray Sites - Began the stand alone workplans for the 250 gray sites (potential sites).

CECIL FIELD NAS
PROGRESS DURING FISCAL YEAR 1996

FY96

Site 1, 2, 5 and 17 - The RI/FS report was completed.
Site 5 - One IRA soil treatment was completed and another IRA for soil treatment was begun. In summer 1996, the BCT decided to discontinue ex-situ treatment of the soil in favor of in-situ (bioventing) treatment concurrently with the groundwater treatment (air sparging).
Site 17 - IRA completed.
Sites 7 and 8 - Draft RI/BRA report submitted.
Site 10 - Draft RI/BRA report submitted.
Site 14 - Began RI/FS.
Site 16 - ROD was approved by the regulatory agencies.
Site 3 - Final RI report submitted. USGS begins study to determine if intrinsic bioremediation of groundwater is occurring.
Site 18 - Completed the IRA.
UST 1 - (North Tank Fuel Farm) -. 2 IRAs were begun, 1 for soil removal and another for bioslurping.
UST 2 - (South Fuel Farm) - The Corrective Action Plan (CAP) was completed.
UST 5 - 2 IRAs were begun.
UST 6 - (103rd St. Pipeline) - Transferred environmental responsibility to NAS Jacksonville.
UST Gray Site Zones - Phase 1 site assessment begun for all tank gray sites. Report to be submitted mid FY97.
BRAC EBS Gray Sites - Completed field sampling program for 80% of gray sites.
Signed FOSL for 60 acres in Yellow Water Weapons Area.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

EIS expected to be complete.
Fish study to be conducted.
Sites 1 and 2 - Begin first year of a five year monitoring program in accordance with the ROD.
Site 5 - Continue IRA.
Site 17 - RD will be completed. Groundwater intrinsic bioremediation monitoring program to begin.
Sites 7 and 8 - Complete the final RI/BRA/FSs.
Site 8 - Begin RD.
Site 15 - Complete the final RI/BRA/FS.
Site 11 -Submit final RI/BRA/FS.
Site 16 - Begin groundwater remediation.
Site 3 and 19 - Complete the final RI/BRA/FSs.
BRAC EBS Gray Sites - Complete the sampling.
UST 1 - (N. Tank Fuel farm) - Begin CAP.
UST 2 - (SFF) - Complete the Design and begin the IMP.
UST 4 - (JETC) - Complete the CAP, Begin the Design and the IMP.
UST 5 - (DT1) - Complete the CAP. Begin the Design and the IMP.
UST 6 - Complete the IRA. Begin LTO. (This will show in next years NAS Jacksonville section).

FY98

Sites 1 and 2 - Continue with the second year of the five year monitoring program.
Site 5 - Complete the IRA.
Site 17 - Continue with the intrinsic bioremediation monitoring.
Site 7 - Begin the RD.
Site 11 - Complete RI/FS, ROD and RD.
Site 16 - Continue with groundwater remediation.
Site 19 - Complete the IRA and Site will go RC.
Site 3 - Complete the RD.
Sites 4 - Complete the final RI/BRA/FS.
BRAC EBS Gray Sites - Complete remediation of gray sites.
Base closure activities begin along with transferring of aircraft.
UST 1 - Complete the CAP, Complete the 2 IRAs and begin the Design and the IMP.
UST 4 - Complete the Design. Complete the IRA.
UST 5 - Complete the Design. Complete the 2 IRAs.
UST 6 - Complete the IMP. (This will show on next years NAS Jacksonville section).

CECIL FIELD NAS
PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	18							
RI / FS	1	4	5	2		1	4	1
RD	3		1	2	3	1	2	1
RAC						4	5	4
RAO							1	2
IRA	2(4)	3(3)		2(2)				4(4)
RC				1		2	6	9
Cumulative % RC	0%	0%	0%	6%	6%	17%	50%	100%

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	1							
RFI / CMS	1							
DES								
CMI	1							
CMO								
IRA								
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	6							
CAP	2	1	2	1				
DES			1	2		1		
IMP				1	3	1		
IMO							1	4
IRA	1(1)		1(1)	3(5)				
RC	1						1	4
Cumulative % RC	17%	17%	17%	17%	17%	17%	33%	100%

Jacksonville Fleet and Industrial Supply Center
Jacksonville, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: COMNAVSUPSYSCOM
Size: 50 Acres
Funding to Date: $2,508,000
Estimated Funding to Complete: $1,690,000

Base Mission: Supplies fuel to all Jacksonville area installations
Contaminants: Diesel fuel, JP-5 jet fuel

Number of Sites:

CERCLA:	0
RCRA Corrective Action:	2
RCRA UST:	0
Total Sites:	2

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	0
Medium:	0	Not Required:	1
Low:	0		

Sites Response Complete: 1

PROGRESS AND PLANS

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	2							
RFI / CMS		2						
DES		1						
CMI				1				
CMO							1	
IRA								
RC		1					1	
Cumulative % RC	0%	50%	50%	50%	50%	50%	100%	100%

JACKSONVILLE NAVAL AIR STATION
JACKSONVILLE, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CINCLANTFLT

Size: 3,820 Acres

Funding to Date: $48,803,000

Estimated Funding to Complete: $109,956,000

Base Mission: Provides services and support operations for aviation activities and aircraft overhaul. The complex houses a naval aviation depot, a naval supply center, and several air squadrons

Contaminants: Acids, caustics, cyanide, heavy metals, low-level radioactive radium paint wastes, oil, paint, PCBs, pesticides, phenols, radioisotopes, waste solvents

Number of Sites:	
CERCLA:	48
RCRA Corrective Action:	3
RCRA UST:	13
Total Sites:	64

Relative Risk Ranking of Sites:

High:	25	Not Evaluated:	2
Medium:	9	Not Required:	16
Low:	12		

NPL

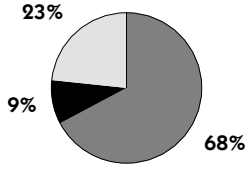
Sites Response Complete: 15

EXECUTIVE SUMMARY

Jacksonville Naval Air Station (NAS) is located in southwestern Duval County, within the limits of the city of Jacksonville, Florida, approximately ten miles south of the central business district and 15 miles from the Atlantic Ocean. Jacksonville NAS includes the following site-types: fire fighting training areas; waste storage and disposal areas; transformer storage areas; radioactive waste disposal areas; and other miscellaneous support and maintenance areas. The media types of greatest concern are soil, groundwater and sediments. Typical air station operations have contributed to the contaminants of concern, including solvents, sludge from on-site treatment plants, and low-level radioactive waste. Over the years, contaminants have migrated into nearby soils and local groundwater supplies. This lead to the placement of the NAS on the National Priorities List (NPL). Current operations include pollution prevention technologies to prevent further contamination. A Federal Facilities Agreement (FFA) between the Navy and the EPA was signed in October 1989, which governs the cleanup schedule.

The groundwater of northeast Florida is made up of two aquifer systems: the deep Floridan aquifer and the shallow aquifer. The deep Floridan aquifer is the principle aquifer for supplying water to the City of Jacksonville and the NAS. It is not a major concern for contamination because it is protected by a 300 foot thick confining layer, and the upward flow of water under artesian pressure. The shallow aquifer is of primary concern because of its potential for contamination from surface sources. The migration of contaminants in surface water at Jacksonville NAS is not a major concern.

A Technical Review Committee (TRC) was formed in FY88. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in March 1995 and meets monthly in Jacksonville, Florida. There are eight members in the RAB, made up of both Navy employees, state and federal regulators and local citizens. A charter for the RAB has been developed and after receiving technical training, RAB members have reviewed several Interim Records of Decision (IROD) and Remedial Investigation/Feasibility Studies (RI/FSs). An Information Repository was established in FY91 at the Wesconnet Public Library in Jacksonville, Florida.



Current Status Of Sites

Studies Underway	43
Cleanups Underway	6
Response Complete	15
TOTAL	64

To simplify and expedite the cleanup process, three Operable Units (OUs) were defined based on geographic location, type and nature of contaminants, and media contaminated. OU 1 consists of two disposal pits, Sites 26 and 27. OU 2 consists of Sites 2-4, and 41-43 and is known as the Wastewater Treatment Plant Area. OU 3 consists of six sites (Sites 11-15 and 48) and is known as the Industrial Area. In addition, the installation has thirteen Underground Storage Tank (UST) sites. In February 1993, the Navy's Radiological Affairs Support Office (RASO) performed a radiological survey of various sites at Jacksonville NAS. Another radiological survey was begun in September 1994 at the nine sites of concern and was completed in FY96. The completion was delayed due to funding constraints in FY95. Soil removal / relocation were accomplished at three sites. Soil from sites 13 and 18 was removed and placed on site 26. A portion of the soil at site 26 was moved to the landfill area.

There are several areas where Jacksonville NAS is having significant success. A Remedial Response Decision System (RRDS) document was finalized in October 1995. The document was created as a management tool for identified Installation Restoration Sites at Jacksonville NAS. This system is an innovative approach. It establishes guidelines and criteria for evaluating existing site data and proposing remedial responses. Implementation of the RRDS began in FY94, with the first remedial decisions made in FY95.

For risk reduction at Site 26 (Old Main Registered Disposal Area), an IRA, begun in FY95 and completed in FY96, to place berms around the drainage ditches to direct surface runoff away from the ditches, to retain the solvents on the site and to block their migration path, was accomplished. At Site 18 (Radioactive Waste Fill Area) in FY95, an IRA, to erect fences to minimize the chance of human and animal contact with the contaminated soil, was accomplished. There is a plan to consolidate sites by digging up and moving contaminated soil from other sites to the fenced in area of Site 26. In an effort to accelerate cleanups, contaminated waste from Sites 41 and 43 were stabilized (chemical and physical treatment of soils and metals) and will be consolidated on Site 42 in FY97. The treated soil will then be used as filler for a settling pond, which reduces the cost for clean fill. Site 2 and a UST were treated at the same time. Petroleum products from both sites were treated at a thermal desorption plant which was set up at Site 2. The treated UST soil will be used for fill at Site 42. At Site 26, a passive recovery system for Liquid Non-Aqueous Phase Liquid (LNAPL) is being operated by base personnel instead of contractors. This will be completed in FY98.

JACKSONVILLE NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The groundwater of northeast Florida is made up of two aquifers: the deep Floridan aquifer and the surficial aquifer. The surficial aquifer is exposed at the land surface and is composed of sand, silts and clays and a thin limestone unit. Below the surficial aquifer is an aquiclude, which separates the surficial aquifer from the deep Floridan aquifer. Of the 53 inches of average annual precipitation, approximately 5 to 13 inches recharges the surficial aquifer. Precipitation that does not recharge the surficial aquifer is either evapotranspired or is discharged from the station as storm runoff. The surficial aquifer is exposed at land surface so contaminants spilled or disposed of at near the surface can readily percolate downward and then migrate laterally under the prevailing groundwater flow rate and direction. The Floridan aquifer is confined at the Naval Air Station by the aquiclude and water levels within the aquifer exceed land surface. The Floridan aquifer is recharged naturally by rainfall where the limestone of the aquifer is exposed at the surface in areas away from the station. The Floridan aquifer is the principle aquifer for supplying water to the City of Jacksonville and the NAS. It is very unlikely that contamination could reach the Floridan aquifer because it is overlain by the 300 foot thick aquiclude and the direction of groundwater flow is upward from the Floridan aquifer toward the surficial aquifer. The surficial aquifer is of primary concern because of its relative ease of contamination from surface sources. The migration of contaminants in surface water at Jacksonville NAS is not a major concern.

NATURAL RESOURCES - The NAS is bounded on three sides by off-base housing developments which use the shallow aquifer supply for their domestic water purposes. Surface waters from the station migrate into the St. John's River which is rated by the Florida Department of Regulations as a Class III waterbody, a protected waterway, and is designated for fish and wildlife propagation and human recreational uses. Endangered species present in the area include the Manatee and various waterfowl.

RISK - A Baseline Risk Assessment for Human Health and Ecological Risk Assessment, as part of the RI/FS for Sites 26 and 27, was performed in FY95, following EPA guidance. Risks for potential future land uses are above EPA risk range for surface soil and groundwater. In FY97, a risk assessment, in conjunction with an RI/FS, will be done at OU 2 (Sites 2-4 and 41-43).

The Navy completed a Department of Defense (DOD) Relative Risk Ranking for the installation in FY95. Of the 64 sites at Jacksonville NAS, 25 sites received a high relative risk ranking. Fifteen were ranked high for groundwater contamination; eight with evidence of a pathway to the receptors, the other seven had only a potential for a migration pathway. The contamination was from a variety of site types, from disposal areas and a fire fighting training area to sludge beds and a polishing pond. The other sites receiving high rankings were for contamination of surface water with the potential for both human and ecological receptors. There was only one site, Site 48 (Navy Exchange (NEX) Laundry), which had evidence of high risk soil contamination. The Agency for Toxic Substance and Disease Register (ATSDR) performed a public health assessment for the installation in March 1995.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Jacksonville was placed on the National Priorities List (NPL) 12 December 1989 with a Hazard Ranking System (HRS) score of 31.02. Site 26 (Old Main Registered Disposal Area) was the likely site driving the inclusion of Jacksonville NAS on the NPL because of its many years as the main site for waste disposal. Based on an FY83 study, there was a potential for contaminants (including the organic solvent TCE, the chemical additive PCB, cadmium, chromium, lead, copper and mercury) to migrate in groundwater off-site and endanger local water supplies. At that time, there were private wells in shallow groundwater within three miles of the hazardous substance site that provided drinking water to an estimated 300 people.

LEGAL AGREEMENTS - An FFA, signed in October 1989, was between the Navy, EPA and the State of Florida. The Site Management Plan (SMP), established in the FFA for Jacksonville NAS, is updated annually.

PARTNERING - Jacksonville NAS established a partnering team, which includes EPA, Florida Department of Environmental Protection (FDEP), Comprehensive Long Term Environmental Action Navy (CLEAN) contractors, Remedial Action contractors, Navy personnel from Naval Facilities Engineering Command (NAVFAC) Engineering Field Division (EFD) Southern Division (SOUTHDIV), and Jacksonville NAS. The team was formed in December 1993. It meets regularly to plan the work to be accomplished and come to agreement on any problems. A general acceleration of the Installation Restoration (IR) process at Jacksonville NAS was accomplished through the use of partnering. Less time is spent in reviewing documents and making plans due to the increased communication between team members.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A TRC was formed in FY88 for regulatory involvement. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in March 1995 and meets the third Tuesday of each month in the Timucuan Elementary School Library in Jacksonville, Florida. There are fourteen members in the RAB, made up of both Navy employees, state and federal regulators and local citizens. Members are elected to a two year term. Membership includes two base employees, two local bank employees, an insurance company employee, an engineering consultant, an environmental consultant, and a retired civil service employee. A charter for the RAB has been developed and initial team building and technical training sessions have been conducted. Based on the technical training the RAB members have been able to review IR documents and they also had a tour of the NAS.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was completed in 1991. In addition, Jacksonville NAS has published fifteen Fact Sheets including two that were completed in September 1994.

INFORMATION REPOSITORY - An Administrative Record and Information Repository were established in FY91. The Administrative Record is maintained by NAVFAC SOUTHDIV, The Information Repository is located at the Wesconnet Public Library in Jacksonville and contains copies of Administrative Record documents.

JACKSONVILLE NAS
HISTORICAL PROGRESS

FY83

Sites 1-6, 8-18, 20-32 and 34-43 - An Initial Assessment Study (IAS), equivalent to Preliminary Assessment (PA) for 40 CERCLA sites was completed.
Site 19 and USTs 1 and 4 - Initial Site Characterization (ISC) completed for three RCRA UST sites.

FY86

Sites 2-4, 11-15, 26 and 27 - Site Inspections (SI) for ten sites completed.

FY88

Site 26 - Surface water drainage controls completed.

FY89

SWMU 2 - Corrective Measures Implementation (CMI) and an IRA started.

FY91

UST 1 - Corrective Action Plan (CAP) was started.

FY92

Sites 1, 5-10, 16-18, 20-25, 28-32 and 34-45 - SI for 32 sites completed.
Sites 1, 6, 10, 24, 34, 36 and 37 - Seven sites listed as Response Complete (RC) after SI phase.
Sites 7, 19 and 33 - Moved three CERCLA sites to the UST program.
Site 19 - Investigation (INV) completed for one RCRA UST site.
SWMU 3 - CMI and IRA started for RCRA site SWMU 3.

FY93

Sites 26 and 27 - Remedial Investigation/Feasibility Study (RI/FS) began for OU 1 sites.
Sites 2-4 and 41-43 - Implemented RI/FS Work Plan for OU 2 sites.
USTs 2, 3, 5 and 8 - ISC completed for four RCRA UST sites.
USTs 3, 5 and 8 - Three RCRA UST sites were listed as Response Complete after the ISC.
UST 4 - CAP was started.

FY94

All Sites - The RASO performed a radiological survey of various sites at the installation and released the final report in FY94. The report recommended further evaluation and delineation of radiological contamination. As a result of these recommendations, the installation initiated a radiological survey in September 1994.
All Sites - Implementation of RRDS document for decision making began, with the first remedial decisions made in FY95.
Sites 18 and 27 - Two IRAs were completed at Site 27, one IRA was started at Site 18. A fence was erected on both sites to restrict access and soil removal was completed on Site 27.
Sites 26 and 27 - ROD signed in August 1994 with estimated completion of FY96, was for recovery of Light Non-Aqueous Phase Liquid (LNAPL) at Sites 26 and 27.
SWMU 1 - Corrective Measures Study (CMS) completed, CMI and Final Remedial Action (FRA) started.
UST 2 - CAP completed and Implementation (IMP) was begun.
UST 4 - Removal action for removal of contaminated soil and waste containers from UST 4 (Gas Hill Building 159) was completed.
UST 9 - ISC completed.

FY95

All Sites - A radiological survey of all sites which had the potential for radiological contamination, was completed in late FY95.
All Sites - An RRDS document was finalized in October 1995. The document has been created as a management tool to establish guidelines and criteria for evaluating existing site data and proposing remedial responses. The first decision was made using this system in November 1995.
Sites 11, 13 and 26 - Three IRAs were started at three CERCLA sites. Soil removal at Sites 11 and 13, and groundwater treatment at Site 26. Site 11 was completed in FY95, Site 13 to be completed in FY99 and Site 26 to be completed in FY98.
Sites 18 and 26 - IRAs were begun to reduce risk to human exposure: At Site 18 (Radioactive Waste Fill Area), fences were erected to minimize the chance of human and animal contact with the contaminated. This action is complete. At Site 26 (Old Main Registered Disposal Area), berms were placed around drainage ditches to direct surface runoff away from drainage ditches and to contain contaminants on the site. This action to be complete in FY96.
Sites 26 and 27 - A Baseline Risk Assessment for Human Health and Ecological Risk Assessment was performed during an RI/FS for Sites 26 and 27.
Site 42 - An IROD signed in February 1995 was for soil stabilization at Site 42. The stabilized waste from two other sites (Sites 41 and 43) is to be placed with the stabilized soil at Site 42. Soil which was treated by thermal desorption (Site 2) will be used for fill. In addition to saving time, use of the stabilized waste for filler reduces the cost for the cleanup project.
Sites 2- 4 and 41-43 - Began an RI/FS activities at six sites.
Sites 2, 41 and 43 IRAs for soil removal and soil stabilization at Sites 41 and 43 and thermal desorption for Site 2 were completed. The ROD for these actions was signed in FY94.
USTs 7 and 10 - CAP begun.
UST 7 - ISC completed.
UST 9 - CAP completed.
SMWU 2 - Intrinsic bio-remediation on groundwater was begun.
SWMU 3 - A removal (IRA) was accomplished.

PROGRESS DURING FISCAL YEAR 1996

FY96

Sites 47, 49 and 51 - PA/SI completed.
Sites 26 and 27 - RI/FS activities were completed. ROD was completed.
Sites 2- 4 and 41-43 - RI/FS activities continued at six sites.
Site 26 - Intrinsic bio-remediation on groundwater is ongoing.
Site 25 - The IRA for berms was completed.
Site 42 - An IRA for in-situ soil treatment to stabilize the soil was completed..
Sites 11, 12, 13, 14, 15 and 48 - Engineering Evaluation/Cost Analysis (EE/CA) was completed for six sites to determine what steps to take for final cleanup.
Sites 11 and 48 - Two IRAs for groundwater treatment were started.
UST 1 - A Remedial Design(RD) was completed and approved for the shallow plume. The deep plume received a NFA for this site. The IMP was begun. Three IRAs for soil removal vapor extraction and plume containment were begun.
UST 2 - The Monitoring Only Plan (MOP) was completed and a NFA was received for this site. RC dates back to FY94.
UST 7 - CAP was completed and approved by FDEP. An IRA for soil removal was completed. An IMP was begun.
UST 10 - CAP was completed and approved by FDEP. CAP recommended a MOP. Site is RC.
UST 11 - SA was completed. Removal action was conducted as part of the MILCON project.
SWMU 1 - An IRA to remove two tanks with associated piping and soil was begun in late FY.
SMWU 2 - Intrinsic bio-remediation continued.
SWMU 3 - CMI completed and site is RC.

JACKSONVILLE NAS
PLANS FOR FISCAL YEARS 1997 AND 1998

FY 97

Sites 11-15 and 48 - RI/FS activities to be continued at six sites.
Site 18 - An IRA begun in FY94 for soil removal is complete.
Sites 26 and 27 - Remedial Design (RD) to be completed.
Sites 26 and 27 - Remedial Action to start.
Sites 2, 3 4, 41, 42 and 43 - RI/FS activities to complete at these six sites. Sites 41, 42 and 43 RC is expected, but not guaranteed.
UST 1 - RA will be completed, 3 IRAs will be completed and IMO will begin.
UST 10 - Implement MOP.
SWMU 1 - Continue groundwater remediation.
SWMU 2 - Intrinsic bio-remediation RA is complete, an RC will be recorded and 1 year of Long Term Groundwater Monitoring begins.

FY 98

Site 21 - PA/SI complete.
Sites 11-15 and 48 - RI/FS activities to be continued at six sites.
Site 26 - Complete IRA for groundwater treatment begun in FY95.
Sites 26 and 27 - Complete RA. RC is recorded for both sites.
UST 7 - IMP was complete. LTO to start in FY99.UST 13 CAP is completed.
SWMU 1 - IRA and CMI will be completed and RC obtained.
SMWU 2 - Groundwater monitoring ends.

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	39	3		1			2	
RI / FS		2	6		5	1	2	21
RD			2		2	2	1	23
RAC				2			3	25
RAO								16
IRA	10(11)	2(2)	1(1)	1(1)	4(4)			1(1)
RC	11		3	2	1			31
Cumulative % RC	23%	23%	29%	33%	35%	35%	35%	100%

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA								
RFI / CMS	1							
DES								
CMI		1	1	1				
CMO								
IRA	1(1)			1(1)				
RC		1	1	1				
Cumulative % RC	0%	33%	67%	100%	100%	100%	100%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	8	1						1
CAP	2	2		1		1	1	5
DES		1				1		7
IMP	1		1	1		1		7
IMO								9
IRA		1(1)	1(3)			1(1)		
RC	2	1						10
Cumulative % RC	15%	23%	23%	23%	23%	23%	23%	100%

KEY WEST NAVAL AIR STATION
KEY WEST, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CINCLANTFLT
Size: 18,615 Acres
Funding to Date: $15,538,000
Estimated Funding to Complete: $13,955,000

Base Mission: Maintains and operates facilities and provides services and materials to support operations of aviation activities Partial closure under BRAC IV

Contaminants: Heavy metals, PCBs, pesticides, volatile organic compounds

Number of Sites:

CERCLA:	8
RCRA Corrective Action:	7
RCRA UST:	5
Total Sites:	20

Relative Risk Ranking of Sites:

High:	12	Not Evaluated:	0
Medium:	5	Not Required:	0
Low:	3		

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	4	1	3					
RI / FS				5				
RD				1				2
RAC					1			2
RAO								3
IRA		4(4)	1(1)					
RC			3	2				3
Cumulative % RC	0%	0%	38%	63%	63%	63%	63%	100%

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	7							
RFI / CMS			4	3				
DES							2	1
CMI				4			1	2
CMO								4
IRA		4(4)	1(1)					1(1)
RC				2				5
Cumulative % RC	0%	0%	0%	29%	29%	29%	29%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	4	1						
CAP	2		2					1
DES			1		1			1
IMP					1	1	1	1
IMO								1
IRA		1(1)	1(1)					
RC			1			1	1	2
Cumulative % RC	0%	0%	20%	20%	20%	40%	60%	100%

Mayport Naval Station
Mayport, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CINCLANTFLT
Size: 3,286 Acres
Funding to Date: $22,256,000
Estimated Funding to Complete: $144,705,000

Base Mission: Ship and on-shore maintenance activities for 34 surface ships

Contaminants: Heavy metals (lead), pesticides, PCBs, volatile organic compounds (chlorobenzene, toluene, benzene, ethylbenzene)

Number of Sites:	
CERCLA:	0
RCRA Corrective Action:	21
RCRA UST:	12
Total Sites:	33

Relative Risk Ranking of Sites:			
High:	25	Not Evaluated:	2
Medium:	2	Not Required:	1
Low:	3		

Sites Response Complete: 1

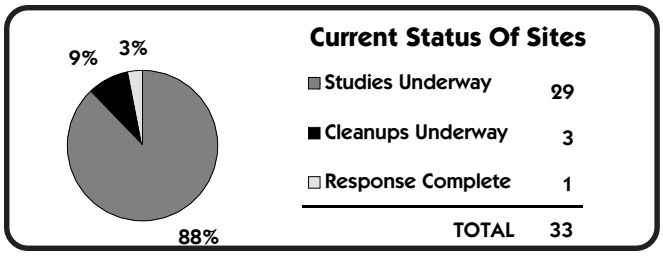
EXECUTIVE SUMMARY

Naval Station (NS) Mayport lies on the southern bank at the mouth of the St. Johns River. The station is approximately 14 miles east of Jacksonville, Florida. Navy station operations normally associated with ship and on-shore maintenance activities contributed to contaminated sites on the installation. The primary site types of concern are the landfills, oily waste treatment sites, pesticide and transformer storage sites, spill areas and fire fighting training sites. Contaminants of concern include waste oils, mercury waste, asbestos, paints, solvents, pesticides, liquid industrial wastes, photo processing wastes and construction debris. Current operations include pollution prevention technologies and hazardous waste minimization programs to prevent further contamination. A Hazardous and Solid Waste Amendment (HSWA) RCRA permit governing the investigation and cleanup of hazardous waste sites was issued by EPA to NS Mayport in March 1988 and renewed on June 15, 1993.

Contaminants at NS Mayport can migrate both by surface water and groundwater. Surface water runoff drains into Sherman Creek, Chicopit Bay, the St. Johns River and the Atlantic Ocean. Neither the shallow groundwater nor the surface water downgradient from NS Mayport is used as a public source of potable water and no potential exists for contaminants to enter the deeper aquifer, which is used as a source of potable water. There is a potential for contaminants reaching human receptors through surface runoff, but the primary receptors at NS Mayport are plants and animals utilizing surface waters rather than humans utilizing groundwater.

For greater community involvement, a Restoration Advisory Board (RAB) was started in FY95. A public Information Repository was established in October 1994.

NS Mayport operates the Installation Restoration Program (IRP) investigations under the RCRA/HSWA program (not under CERCLA). A RCRA Facility Assessment (RFA) was conducted by EPA Region IV in 1989. The RFA identified 56 Solid Waste Management Units (SWMUs) and two Areas of Concern (AOCs). 18 of the sites listed in the 1988 permit entered the IR Program as SWMU sites and 3 additional SWMU sites were added during FY96 based upon investigations identifying contaminant levels requiring cleanups. All 21 SWMUs are still in a study phase. There are currently 11 Underground Storage Tank (UST) sites on NS Mayport (and one at a satellite activity). Eight UST sites are in a study phase, two UST sites have entered the cleanup phase, and one site has no further action.



A major success in the cleanup program at NS Mayport involves the Oily Waste Treatment Plant (OWTP), which contains a waste oil pit and sludge drying beds. The OWTP is located 200 feet from St. Johns River and there is an Light Non-Aqueous Phase Liquid (LNAPL) plume moving toward the river from SWMUs 6 and 7. An Interim Measure (IM), funded in FY94 and completed during FY95, included the construction of five sumps. The five sumps remove LNAPL contaminated groundwater. The fluids are then processed through the OWTP and a Wastewater Treatment Plant (WWTP). Another successful risk reduction IM—funded in FY94 and completed in FY96—removed surface soil contaminated with the chemical additive PCB from land adjacent to SWMU 2 (Landfill B). The removal continued until the contamination was reduced to below residential levels for PCBs.

NS Mayport and North Island NAS (San Diego, CA) are the two Navy activities selected for the Navy Environmental Leadership Program (NELP). The NELP activities serve as test beds for new and innovative technologies and management practices. Successes will be implemented throughout the Navy and Marine Corps. Four NELP innovative technology contracts were awarded in FY94—three for installation restoration (IR) and one for pollution prevention (P2). One IR technology contract was for low temperature thermal desorption for treating petroleum contaminated soil at the Oily Waste Treatment Plant. Two IR contracts involved bioremediation and bioaugmentation treatment; bioremediation to treat petroleum contaminated concrete surfaces and petroleum contaminated surface soil at the Fire Fighting Training Center and bioaugmentation to treat pesticide contaminated surface soil at an Old Pesticide Handling Area. The P2 innovative technology contract involved an UV oxidation process to treat oily bilge water. Oversight contractors are currently reviewing independent data to determine the level of success of these contracts. The NELP innovative technology cleanup contracts have enabled Interim Measures (IMs) to be planned and implemented under the same contract, allowing the remediation work to proceed at a faster pace.

MAYPORT NS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Contaminants at NS Mayport can migrate both by surface water and by groundwater. NS Mayport sits at the mouth of the St. Johns River. The station occupies 3,400 acres of land, of which approximately 1,667 acres are brackish marsh, sand spits, beachfront and dredge material holding areas. Major wetlands exist in the southwestern portions of the station. Dredge material holding areas have displaced some of the wetland areas within the station's boundaries. Surface water runoff eventually drains into Sherman Creek, Chicopit Bay, the St. Johns River and the Atlantic Ocean. There are three aquifers below NS Mayport; a shallow aquifer, near the surface; a secondary artesian aquifer under some areas of the station; and the deep Floridan Aquifer. The upper, shallow aquifer consists of near-surface layers of sand and shell fragments. These deposits vary greatly in composition, thickness, and permeability. NS Mayport groundwater movement is primarily lateral through the shallow aquifer because vertical movement is impeded by underlying clay sediments. The groundwater from the shallow aquifer discharges into streams, ditches, and marshes in the area. The artesian aquifer is imbedded in clayey soil between the shallow and Floridan Aquifers. At the NS, the Floridan Aquifer occurs at a depth of 400 feet. There is sufficient artesian pressure in the Floridan Aquifer so the groundwater flows to the surface and there is an upward hydraulic gradient between the two aquifers, therefore there is little danger of contamination reaching the deeper aquifer from the surface.

NATURAL RESOURCES - Neither the shallow groundwater nor the surface water downgradient from NS Mayport is used as a public source of potable water. Portions of the shallow aquifer are contaminated, but this aquifer is not used for drinking water. The deeper Floridan Aquifer, which is a source of potable water, has no contamination. The United States Geological Survey (USGS) is providing a groundwater flow model to determine the flow patterns of groundwater at NS Mayport. About half the NS land area is wetlands, brackish marsh, sand spits, beach front and dredge material holding areas. Because a large percentage of the base has been filled using dredged material from the St. Johns River and the turning basin, there have been problems in determining "background" levels for comparison values for contamination.

Since the town of Mayport (including homes and playgrounds) borders the NS, there is a potential for contaminants reaching human receptors through surface runoff. Because of a clay cap between the aquifers, no potential exists for contaminants to enter a deeper aquifer which is used as a source of potable water. Therefore, the primary receptors at NS Mayport are plants and animals utilizing surface waters rather than humans utilizing groundwater. In the vicinity of NS Mayport, there are several species of animals that are designated as endangered or protected; among these are the American Alligator, the Arctic Peregrine Falcon, the Least Tern, the Southeastern Kestrel, wood stork, piping plover, eastern indigo snake, loggerhead turtle, ridley turtle, leatherhead turtle, two species of sturgeons, the West Indian Manatee, and the Right Whale. A 20-acre man-made, fresh-water lake is used by residents for fishing and recreation.

RISK - The Navy completed the Department of Defense (DOD) Relative Risk Ranking for the installation in FY95. Of the 33 installation sites—Solid Waste Management Units (SWMUs) and Underground Storage Tank (UST)—25 received a "high" risk ranking; nine ranked high in multiple media categories. The most common high ranked media category was groundwater; it was listed for 18 of the 25 high ranking sites. The high ranking was due to the close proximity of the community of Mayport and the existence of a migration pathway to the groundwater at most of the sites. Four landfill sites (SWMUs 2-5) were ranked high in five media categories (groundwater, surface water with human receptor, sediment with human receptor, sediment/ecological marine receptor, and soil). By their nature, old landfills contain a wide variety of contaminants, and in this case even background level of the sites are difficult to determine due to the unknown origin of some of the fill.

RESTORATION PROJECTS - There are two dredge material holding areas that were filled to capacity during the last dredging cycle (FY94). The next dredge cycle is scheduled for FY97 and approval was received for ocean disposal. Funding was received in FY96 for additional toxicity testing during a non-dredge cycle. Previous toxicity testing, performed during a dredging cycle, indicated potential ecological problems. Without resolution of the ecological toxicity, the Navy may be forced to use expensive ocean disposal, purchase additional land for holding dredge material, or postpone future dredge cycles.

For the area adjacent to SWMU 2, where soils contaminated with the chemical additive PCB were removed, a restoration project is planned for FY97. NS Mayport is planning a tree-planting project for local elementary schools to perform during Earth Week activities.

REGULATORY ISSUES

LEGAL AGREEMENTS - A Hazardous and Solid Waste Amendment (HSWA) RCRA permit was issued to NS Mayport in March 1988; and revised and renewed on June 15, 1993. This permit will expire on June 15, 2003.

PARTNERING - Partnering between EPA Region IV, Florida Department of Environmental Protection (FDEP), NS Mayport Installation Restoration Coordinator (IRC), and Naval Facilities Engineering Command Southern Division (SOUTHDIV) Remedial Project Manager (RPM) began in July 1994. This cooperative arrangement has succeeded in accelerating the investigation and cleanup process at Mayport.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The first Technical Review Committee (TRC) meeting for NS Mayport was held in November 1989. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in FY95. A community briefing, to explain the purpose of the RAB and solicit community participation, was held in December 1994. The first regular monthly meeting was held in February 1995. Meetings are held at the Atlantic Beach City Hall. The RAB, made up of five community members, EPA, FDEP, and Navy personnel, has toured the station and received training on regulations, field work techniques, Navy budgeting, and contracting processes, risk assessment and communication, local hydrogeology, data validation, and the Navy Environmental Leadership Program (NELP). Currently, members are reviewing several reports on the investigation and the recommendations and conclusions regarding remediation. Meetings recently were scaled back from monthly to quarterly due to a reduction in study and clean-up funding for NS Mayport.

COMMUNITY RELATIONS PLAN - The installation's Community Relations Plan (CRP) was originally finalized in November 1992 and is currently being updated.

INFORMATION REPOSITORY - An Administrative Record was established in October 1993. It was placed in the Installation's Information Repository, which was established in October 1994 and is available for public viewing at the Beaches Branch Public Library in Neptune Beach, Florida.

MAYPORT NS

HISTORICAL PROGRESS

FY86

SWMUs 1-6, 10-16, 26, 28 and 29 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), identified 16 Solid Waste Management Units (SWMUs).

FY88

SWMUs 1-6, 11, 13, 14 and 16 - Completed Extended Site Inspections (ESIs).

FY89

EPA Region IV conducted NS Mayport RFA, identified 56 SWMUs and 2 AOCs.

FY91

USTs 1, 3, 4, 8, 9 and 12 - Initial Site Characterization (ISC) started.

FY92

EPA Region IV approved RCRA Facility Investigation (RFI) and RCRA Facility Assessment/Sampling Visit (RFA/SV) workplan.
UST 5 - ISC started.

FY93

SWMUs 2-5, 13 and 22 - RFI conducted.
SWMUs 26, 49, 50 and 56 - RFA/SV conducted.
UST 6 - ISC started.
USTs 1, 3 and 5 - ISC completed.
USTs 1 and 3 - Corrective Action Plans (CAP) started.

FY94

SWMUs 6-12, 15 and 16 - RFI conducted.
SWMUs 19, 28, 48 and 51 - RFA/SV conducted.
SWMUs 2-5, 13 and 22 - Additional RFI activities conducted.
SWMUs 26, 49, 50 and 56 - Additional RFA/SV activities conducted.
SWMUs 2, 6 and 7 - Began Intermediate Measures (IMs). IM is a RCRA IRA.
SWMUs 6 and 7 - Awarded a Navy Environmental Leadership Program (NELP) innovative technology contract for cleanup of hydrocarbon contaminated soils by low temperature thermal desorption (LTTD).
SWMU 14 - Awarded a NELP innovative technology contract for cleanup of hydrocarbon contaminated concrete surfaces and soils by bioremediation.
SWMU 15 - Awarded a NELP innovative technology contract for biodegrading pesticides in contaminated soil.
UST 4 - ISC completed.
UST 3 - CAP completed.
UST 5 - CAP started and completed.
UST 12 - Interim Remedial Action (IRA) started.

FY95

SWMUs 1, 14 and 17 - RFI conducted.
SWMUs 18, 20, 21, 23-25, 44, 45 and 52 - RFA/SV conducted.
SWMUs 2, 6 and 7 - Continued work on two projects for reducing risk to human health and the environment; one installed five sumps for removal of Light Non-Aqueous Phase Liquid (LNAPL) from groundwater at two RCRA sites (SWMUs 6 and 7); one removed the chemical additive PCB contaminated surface soil at SWMU 2 (Landfill B).
USTs 12-14 - IRA completed.

PROGRESS DURING FISCAL YEAR 1996

FY96

SWMU 2 - IM completed for soil removal.
SWMUs 6, 7 and 14 - Conducted IM NELP innovative technology demonstrations. Performed bioslurping pilot scale demonstration to determine if this technology would be effective at removing LNAPL and remediating hydrocarbon contaminated soil above water table. Demonstrations were successful, showed that bioslurping and bioventing was just as effective as the significantly more expensive Low Temperature Thermal Desorption (to treat sludge drying beds soil above water table) and additional trenching and pumping for LNAPL removal.
SWMU 6 - IM complete and another IM was begun.
SWMUs 7 and 14 - IMs to continue.
SWMU 15 - Awarded NELP II innovative technology contract for additional groundwater investigation adjacent to activity boundary.
SWMUs 23-25 - Were added to the IR program during the RFA.
UST 9 - NFA obtained. Site is RC.
USTs 3 and 5 - Remedial Actions (RAs) started.
USTs 6, 8 and 9 - SAs completed.
UST 15 - CAP completed. RD was started.
USTs 1, 6 and 8 - CAPs were started.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

SWMUs 6, 7 and 14 - Under the continuing IM phase, will construct a larger bioslurping and bioventing system and begin operations.
SWMU 15 - Further groundwater investigation required to determine extent of contamination. The town of Mayport's water wells may need to be tested if the investigation indicates contamination is moving in that direction. Continue CMS and complete design for clean-up.
SWMUs 4 and 14 - Complete the CMSs, complete the Designs, and begin CMIs.
SWMUs 23-25 - Begin a Removal (IM) to clean-up contaminated surface soils.
UST 1 - Anticipate CAP completion and RA start.
USTs 4 and 12 - Anticipate ISC completion. SA complete.
USTs 4, 8 and 12 - Anticipate RC.
USTs 1, 6 and 8 - CAPs to be completed.
USTs 1 and 15 - Designs to be completed. Implementations (IMPs) of final cleanups measure to be started.
UST 3 - Complete IMP and start (IMO).
UST 8 - Begin LTM.

FY98

SWMUs 8-11, 13, 16 and 22 - Complete the RFAs.
SWMUs 7, 12, 15 and 17 - Complete the RFI/CMSs.
SWMU 15 - Begin IM construction.
SWMUs 6 and 7 - IMs continues.
SWMUs 4 and 14 - Continue CMIs construction.
SWMU 7 - Complete the Design.
USTs 1 and 15 - IMPs to be completed and start IMOs.
UST 3 - Continue IMO.
UST 5 - Complete IMP and IMO. Start LTM. Site is RC.
UST 6 - Complete Design.
UST 8 - Complete LTM.

MAYPORT NS
PROGRESS AND PLANS

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	11			7				3
RFI / CMS			2	4			2	13
DES			3	1		1	1	14
CMI						1		19
CMO								18
IRA		2(2)			1(1)	1(1)		3(3)
RC								21
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	4	3	2				1	2
CAP	2	1	3				1	2
DES	2		2	1				3
IMP			1	3		1		3
IMO				1	1	2		
IRA	6(7)						1(1)	
RC		1	3	1	1	2	1	3
Cumulative % RC	0%	8%	33%	42%	50%	67%	75%	100%

ORLANDO NAVAL RESEARCH LABORATORY UNDERWATER SOUND REFERENCE DETACHMENT

ORLANDO, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: COMNAVSEASYSCOM

Size: 17 Acres owned; 60 Acres in grant

Funding to Date: $258,000

Estimated Funding to Complete: $300,000

Base Mission: Provides Research, Development, Testing and Evaluation (RDT&E) services for acoustic and sonar devices

Contaminants: Paint

Number of Sites:

CERCLA:	1
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	1

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	1
Medium:	0	Not Required:	0
Low:	0		

BRAC IV

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI			1					
RI / FS				1				
RD					1			
RAC						1		
RAO								
IRA								
RC						1		
Cumulative % RC	0%	0%	0%	0%	0%	100%	100%	100%

Orlando Naval Training Center
Orlando, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 2,075 Acres
Funding to Date: $7,970,000
Estimated Funding to Complete: $21,509,000

Base Mission: Army Air Base, 1941-47; U.S. Air Force occupied the installation until 1974; currently used as a Naval Training Center

Contaminants: Asbestos, low-level radioactive wastes, paint, POLs, pesticides, photographic chemicals, solvents

Number of Sites:	
CERCLA:	10
RCRA Corrective Action:	0
RCRA UST:	4
Total Sites:	14

Relative Risk Ranking of Sites:			
High:	1	Not Evaluated:	3
Medium:	1	Not Required:	9
Low:	0		

BRAC III

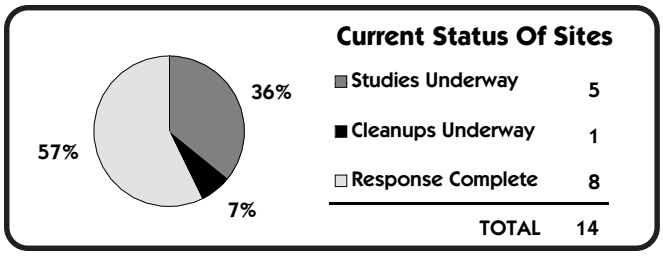
Sites Response Complete: 8

EXECUTIVE SUMMARY

Orlando Naval Training Center (NTC) is located on 2075 acres in Orange County, Florida. The complex is composed of four noncontiguous properties: Main Base, Area C, Herndon Annex and McCoy Annex. The majority of the operational and training facilities are located at Main Base, a 1,093 acre parcel that lies entirely within the Orlando city limits approximately 4 miles northeast of downtown Orlando. Area C is 46 acres and is located approximately 2 miles west of the Main Base. It contains warehouse and laundry operations. Herndon Annex occupies 54 acres on a parcel located about 5 miles south of Main Base. It also contains warehouses and research facilities. McCoy Annex occupies 882 acres and is 12 miles south of the Main Base. It is mainly housing and support community facilities. NTC has been a Naval Training Center since 1968. It was previously used by the Army Air Base, 1941-1947 and Air Force Base from 1952 - 1968.

Groundwater, surface water, and soil contamination have resulted from installation operations. Asbestos, paint, petroleum/oil/lubricants (POL), pesticides, photographic chemicals, solvents and low-level radioactive wastes are contaminates of concern. Contaminants have migrated downward to the shallow aquifer. Surface water contamination has occurred in numerous ditches and creeks that drain into several larger nearby water bodies, including Lake Baldwin, Lake Susannah, Lake Gear, Lake Druid and Lake Barton. There are also numerous wetland areas on and near the base.
Although the area surrounding NTC is urban in character and is surrounded by the Cities of Orlando and Winter Park, threatened and endanger species such as Ospreys, Bald Eagles and Gopher Tortoises nest and range throughout the area. Current operations include pollution prevention technologies to prevent further contamination. NTC Orlando has not been placed on the National Priorities List (NPL).

In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of NTC Orlando and relocation of its activities to Great Lakes and New London. The 1995 Base Realignment and Closure (BRAC) Commission redirected the relocation of the Navy Nuclear Power Training Command from New London to Charleston, South Carolina. A Restoration Advisory Board (RAB) was formed in September 1994 and a Community Relations Plan (CRP) was developed in April 1995. The Administrative Record and Information Repository were also established in FY95 and are available for public viewing at the Orange County Library.



Work for the Navy's Installation Restoration Program (IRP) got underway at NTC Orlando in 1985. The Initial Assessment Study (IAS) assessed 9 CERCLA sites. There are now 10 CERCLA sites and as of FY96, 6 are RC. There are 4 RCRA UST sites, and as of FY96, 2 are RC. Since that time, as part of BRAC, 53 Potential Areas of Concern (PAOCs) and over 300 tank system have been identified as requiring assessment. There are Four Operable Units(OUs), OU1 is Site 1, OU2 is Site 3, OU3 is Site 8 and OU4 is Site 5. All 4 OUs are currently being investigated or scheduled for investigation. The RI/FS for Site 1 (OU1, The Main Base Landfill) started in FY95 and the ROD is expected to be completed in FY97. The RI/FS for Site 3 (OU2), the McCoy Annex Landfill, was started in FY95. Currently the workplans are complete and the Field Work is expected to begin in FY97. The RI/FS for Site 8 (OU3), the Old Pesticide Shop and Greenskeeper Storage Area, is planned for FY97. The RI/FS for Site 5 (OU4), the Laundry at Area C, is scheduled for FY97. An IRA, at Site 5, was started in FY95 and is scheduled to be completed in FY97. Funding constraints has caused OU investigations originally scheduled for FY96 to be reprogrammed for FY97.

In order to conduct the cleanup in an orderly manner, the sites were divided into groups based on location and when the area of the base was closing. NTC is a three phase closure with the Recruit Training Command (RTC) and Naval Hospital closing in March 1995, the Service School Command (SSC) closing in November 1996 and the Navy Nuclear Power Training Command (NNPTC) closing in September 1999. 53 PAOCs and 300 tank systems are on the various sites. The tank systems are being addressed as BRAC compliance sites. Only a few of the PAOCs, if any will move into the IR program as official sites.

Several successes in the cleanup program at NTC have taken place. Risk reduction has been accomplished by source and soil removal when tanks were removed. Innovative technologies and presumptive remedies are being used where appropriate to speed-up the OU and site screening investigations. Intrinsic bioremediation of groundwater for petroleum products, the organic solvents, PCE and methyl chloride is being considered for OU 4. Bioremediation of soil for petroleum hydrocarbons has been enhanced by using a Vacuum-Truck to remove free product and draw oxygen into the contaminated zone thus shortening the time to remediate the site.

ORLANDO NTC
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - There are three aquifers of concern at NTC Orlando: the surficial, the intermediate and the deepest, Floridan aquifers. The unconfined surficial aquifer occurs at or near the surface to approximately 40 feet below surface (bls) and is primarily recharged by local rainfall. Contaminants easily enter the surficial aquifer due to its close proximity to the surface and the permeability of the sandy soil common in the area. The intermediate aquifer underlies the surficial aquifer and consists of permeable units within the Hawthorn Group. This aquifer generally is found at depths ranging from 60 to 150 feet bls. The Floridan aquifer underlies the intermediate aquifer and consists of two water-producing zones: the upper zone, from 150 to 600 feet bls, and the lower zone, from 1,000 to 1,500 feet bls. Groundwater movement is primarily lateral through the surficial aquifer because vertical movement is impeded by the underlying clayey sediments of the Hawthorn Group. Migration by surface water is a potential pathway since there are numerous ditches, Lakes and wetlands throughout the installation. The major receiving waters include Lake Baldwin and Lake Susannah at Main Base, Lake Druid at Area C, and Lake Barton at Herndon Annex. McCoy annex has no lakes in the immediate down gradient area but there are several wetland areas on the property.

Two OUs and several petroleum contaminated sites have plumes of contamination in the upper aquifer, but drinking water wells at the NTC do not tap the surficial aquifer, therefore direct impact to water sources is not anticipated. The presence of confining clay sediments and artesian conditions impedes downward migration from the surficial aquifer. NTC Orlando and the majority of the surrounding areas receive their potable water from a deep aquifer which is protected by an extensive confining layer.

NATURAL RESOURCES - Aquatic organisms, in the receiving waters of surface and groundwater migrating from NTC Orlando, and animals which rely on these areas for feeding and water are the primary, potential receptors. These receiving waters are classified by the Florida Department of Environmental Protection (FDEP) as Class III Water - Recreation, Propagation and Management of Fish and Wildlife. Base personnel who fish in the lakes are also potential receptors.

RISK - The Navy has partially completed a Relative Risk Ranking for the installation in FY95. One Site received a "High" risk ranking. Three of the OUs do not have evaluations and they will be done in FY97. Reuse and transfer is the primary priority factor for restoration. All three OUs not ranked are expected to receive "high" risk rankings.

RESTORATION PROJECTS - The restoration of OU 3 and OU 4 will be accomplished by source removal and ground water treatment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NTC Orlando has not been placed on the National Priorities List (NPL). HRS scoring has been completed twice the latest in 1995.

LEGAL AGREEMENTS - Cleanups are conducted under the CERCLA Installation Restoration Program. NTC Orlando is part of the Florida Petroleum Agreement which establishes the framework for petroleum storage tank cleanup.

NTC is a small quantity generator and is not required to have a RCRA Hazardous and Solid Waste Amendments (HSWA) permit.

PARTNERING - The installation has encouraged partnerships with federal and state regulatory agencies and promoted public involvement by coordinating with local regulatory agencies, natural resource trustees, and other interested agencies and organizations. Because of this partnering team approach to solving problems, the amount of time required for the installation's sites to proceed from the investigation phase to the remedial process has been reduced. An example is that work plans are being put in place more quickly because agreements are reached on what is to go into the plans before they are written so that they can be accepted and implemented without delay for reviews and rewrites.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - In an effort to keep the community informed of the cleanup progress at the installation a Restoration Advisory Board (RAB) was formed in September 1994. There are 15 community members on the RAB. Meetings are held on a bi-monthly basis. The public has a positive view of the NTC and shows little concern over potential contamination.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was developed in April 1995.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in FY95. They are available to the public at the Orange County Library, Orlando, Florida.

BASE REALIGNMENT AND CLOSURE

BRAC - The Reuse Plan was finalized in January 1995. The Orlando Community Redevelopment Agency was established by the City of Orlando in September 1995 to implement the reuse plan. The ROD for the Environmental Impact Statement (EIS) will be signed in November 1996 and the Economic Development Conveyance (EDC), submitted by the RDA in September 1996 is being reviewed and much of the vacant property is expected to transfer in FY97.

BRAC CLEANUP TEAM - The installation's BRAC Cleanup Team (BCT), formed in FY94, is made up of a Navy representative, an EPA Region IV member and a representative from FDEP. The BCT is now the Orlando Partnering Team (OPT) and has been expanded to become a facilitated partnering team which include the Navy CLEAN and RAC contractors.

DOCUMENTS - NTC Orlando completed it's draft EBS in January 1994 and BRAC Cleanup Plan in March 1994. The final EBS was submitted in December 1994.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
1,348 acres	145 acres	0 acres	21 acres	21 acres	104 acres	438 acres

REUSE - During FY95, the installation finalized the EBS and a BRAC Land Reuse Plan. The NTC is to be redeveloped into a commercial center, community parks, residential, educational and light industrial facilities. Potential lessors or buyers that fit the reuse plan are now being sought. The Naval Hospital (45 acres) has been turned over to the Veterans Administration and Customs has taken over Bldg. 325 (4.1 acres). However, the paper work transferring the property has not been finalized. The City of Orlando has requested Capehart Housing (214 acres) as the first phase of their EDC. It should be approved in FY97. Finding of Suitability to Transfer (FOSTs) and Finding of Suitability to Lease (FOSLs) will be completed for all of the vacant property, about 835 acres in FY97. Regulatory concurrence for the Community Environmental Response Facilitation Act (CERFA) clean acreage was obtained.

FAST TRACK INITIATIVES - As a BRAC installation, NTC Orlando will make use of "Fast Track Initiatives": (1) compress schedule; (2) improve communications; (3) eliminate redundant actions; (4) increase concurrent activities; (5) maximize direct-push technology; (6) partnering with regulatory agencies and contractors; (7) use presumptive remedies and innovative technologies.

ORLANDO NTC
HISTORICAL PROGRESS

FY85

Initial Assessment Study of NTC Orlando, Florida was completed in September 1985. It performed Preliminary Assessments (PA) of 9 PAOCs and recommended 5 potentially contaminated sites for Confirmation Studies. Site 7 is RC.

FY86

Verification Study by Geraghty and Miller, Inc. Recommended 4 sites for additional investigation. They were the Landfills at Main Base and McCoy Annex, the Pesticide site at Main Base and the old Waste Water Treatment facility at McCoy Annex. This brought the total CERCLA sites to 10.

FY87

Sites 6, 9 and 10 - PA/SI complete and all three sites are RC.

FY93

Listed for BRAC closure.
USTs 1 and 4 - Corrective Action Plans (CAPs) are complete. Both sites are RC.

FY94

March 1994, Draft EBS report.
BRAC Cleanup Plan (BCP) completed.
Process Decontamination and Closure Procedures developed
RAB was formed.

FY95

Naval Hospital was turned over to Veterans Administration, awaiting final paperwork.
CRP developed.
Administrative Record and Information Repository were established.
Final Reuse plan completed.
Final EBS report completed in December 1994.
BCP updated.
BRAC Cleanup Plan Abstract created. (BCP Abstract)
Site Screening started on 15 PAOCs
Site 1 - RI/FS began.
Site 3 - RI/FS began.
Site 5 - IRA began. PA/SI began.
UST 2 - IRA for groundwater began.
UST 3 - Corrective Action Plan (CAP) completed.

PROGRESS DURING FISCAL YEAR 1996

FY96

Site Screening started on 25 PAOCs (40 total so far).
Site Screening completed on 18 PAOCs with none transferring to official IR program.
Site 5 - PA/SI was completed and RI/FS was initiated.
Site 1 - RI/FS and ROD completion was delayed until FY97 because recommendation for monitoring only in the ROD required more scrutiny. RD was initiated for monitoring only.
Sites 2 and 4 - PA/SI was completed. Sites are RC. These won't need RI/FSs as planned.
Site 3 - RI/FS field work was slipped to FY97 due to funding.
Site 8 - RI/FS start date was delayed until first quarter FY97 due to funding.
UST 3 - Design is complete. IMP beginning and completion delayed due other priority work.
UST 2 - CAP and RD start dates were delayed until FY97 although completion date of FY97 stayed the same. IRA completion delayed until FY97 due to delays in construction.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

First EDC to be completed and approved for Capehart housing..
Complete FOSLs and FOSTs for 835 vacant acres.
Complete screening of previously stated investigation, 22 PAOCs
Start Site Screening on remaining 13 PAOCs (53 total)
Site 1 - RI/FS, ROD and RD to be completed.
Site 3 - RI field work to begin.
Site 5 - IRA begun in FY95 is complete. Another IRA to begin.
Site 8 - RI/FS will be initiated.
Site 1 - RA to be initiated. Depending upon the decision reached in the ROD, an RA may not be initiated if just monitoring is agreed upon for the main base landfill.
UST 2 - CAP, Design and IRA will be completed. IMP will begin.

FY98

13 PAOCs Complete site screening.
Site 5 - IRA to be completed.
Site 5 - RI/FS to be completed and RD to begin.

ORLANDO NTC
PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	7	3						
RI / FS			1	1	1	1		
RD			1		2		1	
RAC					1	2		1
RAO								1
IRA			1(1)	1(1)				
RC	4	2			1	1		2
Cumulative % RC	40%	60%	60%	60%	70%	80%	80%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	3							
CAP	3		1					
DES		1	1					
IMP					2			
IMO						1		
IRA			1(1)					1(1)
RC	2					1		1
Cumulative % RC	50%	50%	50%	50%	50%	75%	75%	100%

Panama City Coastal Systems Station
Panama City, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: COMNAVSEASYSCOM
Size: 657 Acres
Funding to Date: $9,073,000
Estimated Funding to Complete: $14,894,000

Base Mission: Serve as a major research, development, testing and evaluation laboratory for Navy systems

Contaminants: POLs, solvents

Number of Sites:

CERCLA:	0
RCRA Corrective Action:	16
RCRA UST:	3
Total Sites:	19

Relative Risk Ranking of Sites:

High:	7	Not Evaluated:	0
Medium:	2	Not Required:	10
Low:	0		

Sites Response Complete: 10

PROGRESS AND PLANS

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	16							
RFI / CMS		6	4					
DES			1	1	2			1
CMI			1		1	1	1	1
CMO							1	1
IRA			2(2)	1(1)	1(1)			
RC	6	3	3				2	2
Cumulative % RC	38%	56%	75%	75%	75%	75%	88%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	3							
CAP		3						
DES								
IMP		1						
IMO						2		
IRA								
RC		1				2		
Cumulative % RC	0%	33%	33%	33%	33%	100%	100%	100%

PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CNET

Size: 5,874 Acres

Funding to Date: $45,327,000

Estimated Funding to Complete: $115,782,000

Base Mission: Provides flight training (fixed-wing and rotary), provides maintenance as a Naval Aviation Depot (NADEP), formerly a Naval Air Rework Facility (NARF)

Contaminants: Ammonia, asbestos, cyanide, heavy metals, paint, PCBs, pesticides, phenols, plating wastes, chlorinated and non-chlorinated solvents

Number of Sites:	
CERCLA:	38
RCRA Corrective Action:	1
RCRA UST:	14
Total Sites:	53

Relative Risk Ranking of Sites:			
High:	20	Not Evaluated:	2
Medium:	8	Not Required:	10
Low:	13		

NPL

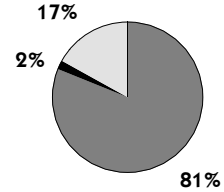
Sites Response Complete: 9

EXECUTIVE SUMMARY

Pensacola Naval Air Station (NAS) is on a peninsula about six miles southwest of Pensacola, Florida. The NAS has been a Naval industrial operations center since the early 1800's. It was a Navy shipyard from 1826 to 1911, and then converted to an air station. Typical air station operations that contributed to contaminated sites on the facility include: machine shops; foundry; coatings and paint shops; paint stripping; plating shops; mechanical maintenance shops; public work shops; automotive shops; printing and photographic shops; power plants; wastewater treatment plants; fire fighting; landfill disposal; and storage of supplies, materials, fuels and limited ordnance. Current operations involve pollution prevention technologies to prevent further contamination. The primary sites of concern on the NAS are two landfills into which all types of wastes were disposed. The sites ranked as high relative risk; they were so ranked primarily because of known contamination and identified migration pathways to both human and ecological receptors. The NAS is under a Federal Facilities Agreement (FFA) with the EPA, signed on 23 October 1990.

The NAS is surrounded by sensitive wetlands and marine ecosystems on the north (Bayou Grande), east and south (Pensacola Bay). West of the NAS are small towns and rural populations. Contaminant migration to the Bayou and Bay, which are used for recreation, fishing and wildlife habitat, is a major concern to the community. Contaminants have been detected in the NAS wells which draw from the upper groundwater aquifer (now only used for irrigation). There are drinking water wells within 3 miles of the sites drawing from the deeper drinking water aquifer, in which no contamination has been detected to date.

A Restoration Advisory Board (RAB) was started in June 1995 and has five active community members who provide public advice to the Navy. A Community Relations Plan (CRP) was first published in 1990 and three publicly available Information Repositories were established at local libraries.



Current Status Of Sites

Studies Underway	43
Cleanups Underway	1
Response Complete	9
TOTAL	53

Forty-five CERCLA sites have been identified since 1983, with 6 sites (3, 19, 20, 21, 23 and 37) being named UST sites (18, 20, 21, 22, 23, 24 respectively) and 1 site (Site 31) being combined with Site 30. This currently leaves 38 sites in the CERCLA program, with 5 being Response Complete (RC). There are 14 RCRA UST sites currently, with 4 being RC. There is 1 RCRA SWMU site which is currently under a Corrective Measure Operation for groundwater cleanup. This SWMU will not be RC until FY02.

There are 44 sites still active. All 33 CERCLA sites are in a Remedial Investigation/Feasibility Study (RI/FS) phase. Five RCRA Underground Storage Tank (UST) site are in the Corrective Action Plan (CAP) study phase, three USTs are in the Site Assessment (SA) study phase and two USTs are awaiting the Initial Site Characterization (ISC) phase, which is part of the SA. One RCRA Solid Waste Management Unit (SWMU) site is currently in the long term cleanup phase, after installing a pump and treat groundwater system. A removal action for contaminated soil and an Interim Remedial Action (IRA) to install a cap on the site accelerated the cleanup. Ten additional removal actions have been completed. Contaminated soil was removed from six CERCLA sites (Sites 9, 29, 32, 34, 36 and 39) and from two UST sites (USTs 2 and 23). Soils from around the industrial sewer lines (Site 36) went through a low temperature thermal desorption process. Tanks were removed from Site 30 and a fence was installed around Site 43 to limit access. The response is complete at five CERCLA sites. A removal action to remove contaminated soil completed the cleanup at one site and four site required no further study or action at the end of the RI/FS phase.

A major success in the cleanup program at NAS Pensacola involves preparations for Naval activities moving on the base as a result of closures or realignments. The Base Realignment and Closure (BRAC) III realignment of NADEP from NAS Pensacola and the Naval Aviation Technical Training Center to NAS Pensacola required a $227 million BRAC construction project on the NAS. Sites 9, 29, 34 and 36 were under investigation and in order to accommodate the BRAC construction schedule, these sites required expedited investigation to determine the nature and extent of contamination and the remediation required. This expedited schedule impacted the prioritization of Installation Restoration (IR) work plans under the FFA. Regulatory agency agreement to the expedited schedule was solicited and achieved. A partnering Team comprised of NAS Pensacola, EPA Region IV, Florida Department of Environmental Protection, and the Naval Facilities Engineering Command (NAVFAC) Southern Division (SOUTHDIV) and its contractors resolved RCRA/CERCLA issues in a timely manner, to prevent any delays in the BRAC construction contract award.

PENSACOLA NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - NAS Pensacola is surrounded by water on three sides: the Pensacola Bay on the south and east and the Bayou Grande on the north. Most NAS property is within a mile of the water. Surface runoff that is not retained in the small lakes or swampy areas runs off into the Bay or the Bayou. Man-made drainage channels, storm drains, and wastewater outfalls feed into intermittent streams and numerous drainage outfalls which in turn empty out into the Bay. Due to the porosity of the soil, rain will infiltrate rapidly until it reaches the water table. The shallow groundwater aquifer is only used for irrigation water on base and the groundwater flow is toward the Bay. The drinking water aquifer is deeper and is separated by a clay layer. There are three wells on NAS that tap into this deeper aquifer. Migration pathways for contaminants exist through overland flow of surface water runoff and through lateral drainage in the surficial sand or vertical drainage downward toward the shallow groundwater aquifer, which eventually connects with the Bay. Monitoring wells, both shallow and deep, have been installed around the base at strategic locations.

NATURAL RESOURCES - Pensacola Bay (Site 42) and Bayou Grande (Site 40), which surround NAS Pensacola, and eighty-one wetlands (Site 41), which have been delineated on the base, are ecologically sensitive areas. The Bay and Bayou are major recreational and shellfishing and fishing areas. The estuarine areas around the NAS are ecologically sensitive coastal marshes, dunes and beaches with seagrass plant communities and marine and coastal habitats. There are at least seven federally listed endangered species in the area of NAS Pensacola including the American alligator, several sea turtles and birds. Located within the boundaries of NAS Pensacola are several historical areas and buildings such as the Lighthouse Reservation, Fort Barrancas, Fort Redoubt, Fort San Carlos and the Barrancas National Cemetery. Fort San Carlos was dedicated as a national landmark in 1963 and entered on the National Register of Historic Places. Native American archeological sites have also been discovered. Coordination with the NAS Cultural Resources Manager is required for Installation Restoration (IR) site inspection and remediation.

RISK - A Baseline Risk Assessment, both ecological and human health, has been completed for Sites 32, 33, 35, and 39 following the EPA guidance. For the Department of Defense (DOD) Relative Risk Ranking System, 20 sites were ranked as "high." The high-ranked sites were so ranked primarily due to known soil and groundwater contamination and identified migration pathways to nearby wetlands and ecological resources and migration pathways and exposure routes for personnel working near the sites.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Pensacola was proposed for the National Priorities List (NPL) on 14 July 1989 and was subsequently listed on 31 December 1989 with a Hazard Ranking System (HRS) score of 42.4. Two large landfills at Sites 1 and 11 into which all types of wastes were disposed, the industrial wastes outfalls into the sediments at Site 2, and the proximity of recreational surface waters were the primary drivers of the HRS score.

LEGAL AGREEMENTS - A Federal Facilities Agreement (FFA) was signed on 23 October 1990 with the EPA and State of Florida's Department of Environmental Protection. A Site Management Plan, which is updated annually, contains the investigation and cleanup schedules for the sites and is included by reference as part of the FFA. During negotiations on the FFA, eight recently discovered sites were added to the program, Sites 35-42. The FFA covers Sites 1-18, 22, 24-36 and 38-45.

PARTNERING - A partnering initiative between the Navy, EPA Region IV and the Florida Department of Environmental Protection began in December 1993. The partnering arrangement has helped by assuring that the right people are at the appropriate meetings and allow decisions to be made at the lowest possible level in the management chain. For example, the state's RCRA regulators were brought in to resolve RCRA issues on BRAC III construction sites. The partnering team is instrumental in achieving expedited study of IR sites (Sites 9, 29, 34 and 36) affected by new construction for activities moved to the installation as a result of BRAC III and resolving associated RCRA/CERCLA overlap issues.

INSTITUTIONAL CONTROLS - Implementation of land use restrictions at non-closing bases has not been resolved by DOD, EPA, and Florida. Final concurrence of the ROD for Sites 32, 33, and 35 by EPA and Florida is pending resolution of this issue.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in January 1989. Meetings were held on a regular basis until 1995. The TRC was composed of personnel from the installation, SOUTHDIV, EPA Region IV, the Florida Department of Environmental Protection and other appropriate parties. The TRC was converted to a Restoration Advisory Board (RAB). The first RAB meeting was held in June 1995 and regular meetings are held monthly. The RAB currently has nine members of which five are from the community. Community members were sought through newspaper advertisements, public meetings, local television advertisements, fairs and mass mailings. All applicants were accepted as members and the members come from the local professional and business arenas as well as local government. The RAB has selected a community co-chair and has completed its charter.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was first published in March 1990 and was revised in April 1996. Six fact sheets, eleven press releases and eight public notices have been distributed and two public meetings have been held.

INFORMATION REPOSITORY - An Administrative Record (the official file) was established in 1991 and is maintained by the Navy. The information in the Administrative Record was placed in three Information Repositories, established in 1991, for public access. They are located at the NAS Pensacola Station Library, the West Florida Regional Library, and the John C. Pace Library in Pensacola, Florida. The Information Repositories are updated regularly by the Navy.

HISTORICAL PROGRESS

FY83

Sites 1-29 - The Initial Assessment Study (IAS), similar to a Preliminary Assessment (PA), was completed which identified 29 potential CERCLA sites (Sites 1-29). The IAS recommended seven sites for further study: Sites 1, 11, 17, 21, 22, 27 and 29. During a meeting with the state of Florida in November 1983, five more sites were added: Sites 30-34. The state recommended further study at 17 sites: Sites 1, 2, 3, 9, 11, 15, 17, 19, 21-23, 26, 27 and 30-33.

USTs 20-23 - The Initial Site Characterization (ISC) was completed (previously Sites 19, 20, 21 and 23 in the IAS) at these Underground Storage Tank (UST) sites.

FY84

Sites 1-3, 9, 11, 15, 17, 19, 22, 23, 26, 27 and 30-34 - A Verification Step study, similar to a Site Inspection (SI), was completed in July 1984. This study recommended a Characterization Study be done for Sites 1, 11, 15,

PENSACOLA NAS
HISTORICAL PROGRESS

26, 27 and 30-34.
Sites 30-34 - IAS (PA) was completed.

FY85

SWMU 1 - A groundwater pump and treat system was installed.

FY89

Sites 1, 11, 15, 19, 26, 27 and 30-34 - A Characterization Study, similar to an SI, was completed. Site 31 was combined with Site 30 and the Site 30 name was retained.
Sites 1-18, 22, 24, 25-30 and 32-34 - Started Remedial Investigation/ Feasibility Study (RI/FS) phase.

FY90

Sites 35-42 - The Federal Facilities Agreement (FFA), signed in 1990, added these eight additional CERCLA sites which went directly into the RI/FS phase.

FY91

Sites 1-42 - The sites were grouped into 17 Operable Units (OUs).
Site 35 - Started RI/FS phase.
UST 17 - ISC was completed and Long Term Monitoring (LTM) was initiated after the ISC and No Further Action (NFA) is expected at the site. UST is RC.

FY92

USTs 20, 21, 22, 23 and 24 - Five CERCLA Installation Restoration (IR) sites (Sites 19, 20, 21, 23 and 37 renamed USTs 20, 21, 22, 23 and 24 respectively) were moved into the RCRA UST program because petroleum products were the only contaminants at the sites.

FY 93

Sites 38 and 39 - RI/FS phase started.
Sites 1-4 and 6-38 - RI Phase II work plans were approved by the regulatory agencies.
Sites 40-42 - Phase I work plans were submitted to the regulatory agencies for review.
Sites 1, 2, 11, 25, 27, 30 and 38 - RI phase field work started on 7 CERCLA sites.
USTs 4, 5, 8, 10, 11 and 16 - PA was completed for six UST sites which were moved to the CERCLA IR program for investigation.
USTs 2, 6, 7, 9, 12, 13 and 15 - ISC was completed.
UST 15 - SA was completed

FY 94

Sites 30, 32 and 39 - Interim Remedial Actions (IRA) were completed. A waste tank was removed from Site 30 and industrial sludge containing heavy metals was removed from the sludge drying beds at Site 32. Stained soil was removed from Site 39 which eliminated the need for an FS phase.
Site 43 - A removal action was completed to install fencing which blocks access to an area with drums protruding from the ground.
Sites 9, 29 and 34 - RI phase field work was expedited and completed to allow award of a $227 million contract for construction to house Base Realignment and Closure (BRAC) III activities realigned to Pensacola.
Sites 5, 9, 10, 13, 14, 32, 33, 35 and 39 - RI phase field work was completed.
Sites 3, 9, 10, 14, 29 and 34 - Two RI phase Sampling and Analysis Plans were completed for six CERCLA sites: one for Site 3, and one for Sites 9, 10, 14, 29 and 34.
Site 3 was renamed UST 18 because only petroleum issues were discovered.
Sites 36, 40, 41 and 42 - RI/FS phase started.
Site 43 - SI phase started and a geophysical survey was completed.
UST 13 - An interim corrective measure was performed to remove petroleum contaminated soil.

FY95

Sites 43 and 44 - Added in the FFA.
Site 39 - RI/FS and Proposed Plan (PP) completed and no further remedial action. ROD signed on 31 July 1995. Site is RC.
Sites 9, 29, 34 and 36 - IRA for soil removal was begun.
Sites 1, 2, 9, 13, 29, 32, 33, 34, 35 and 38 - RI Reports submitted for regulatory review.
Sites 40, 41 and 42 - RI Work Plans and Sampling and Analysis Plans were approved.
Sites 12, 15, 17, 18, 24, 26 and 28 - RI Sampling and Analysis Plans were completed.
Sites 4, 6, 7, 8, 16, 22 and 36 - RI Sampling and Analysis Plans were submitted for regulatory review
Sites 12 and 26 - RI field work was completed.
Sites 15, 17, 18, 24, 28 and 36 - RI field work was started.
Sites 40-42 - Phase I RI Final Work Plans were approved.
USTs 9 and 12 - SA complete and sites are RC.
UST 14 - SA is complete.
USTs 2 and 9 - An interim corrective measure was performed to remove petroleum contaminated soil.

PROGRESS DURING FISCAL YEAR 1996

FY 96

The CRP was revised.
Site 5 - RI/FS complete with NFA. Site is RC.
Sites 29, 34 and 36 - Four IRAs for contaminated soil were completed with two at Site 36.
Sites 10 and 14 - The Site Characterization Reports were completed. RI/ FS phase complete and NFA was recommended. Sites are RC.
Sites 18, 28 and 36 - The RI phase field work was completed.
Sites 4, 7, 8, 16, 22, 24, 40, 41 and 42 - RI phase field work began. Could not be completed due to additional sampling being needed (8, 22 and 24), regulatory agencies needed more review time (4, 6, 7, and 16) and the National Resource Trustee needed more review time (40, 41 and 42).
Sites 32, 33 and 35 - RI, FS, and PP were submitted, but final regulatory review not until FY97. ROD not completed due to pending resolution of institutional controls issue.
Site 13 - RI/FS complete and NFA letter was received. ROD not needed. Site is RC.
Site 1 - RI was completed. RD not begun because of new priorities.
Sites 11, 12, 25, 26, 27, 30 and 38 - RI was submitted for regulatory review.
Sites 32, 33 and 35 - RD was started.
Site 13 - Not needed.
Site 43 - PA/SI completed.
Sites 18, 24 and 28 - RD was delayed due to non-completion of RI/FS.
Site 1 - FS, PP, ROD not completed due to pending resolution of institutional controls issue.
Sites 9, 29 and 34 - RI/FS and ROD not completed due to unanticipated discoveries of other contaminants.
Site 45 - New CERCLA site added and included in the FFA.
SWMU 1 - A groundwater pump and treat system is already in place and will continue to operate at this Solid Waste Management Unit (SWMU).
UST 13 - SA is complete and site is RC.
UST 15 - An interim corrective measure was performed to remove petroleum contaminated soil.

PENSACOLA NAS
PLANS FOR FISCAL YEARS 1997 AND 1998

FY 97

Sites 32, 33 and 35 - RI/FS, PP and ROD to be completed pending resolution of institutional controls issue.
Site 1 - FS, PP, ROD to be completed pending resolution of institutional controls issue.
Sites 2, 9, 29 and 34 - RI, FS, PP - to continue.
Sites 4, 7, 16, 18, 28 and 36 - RI/FS to be completed.
Sites 11, 12, 16, 17, 25, 26, 27, 30 and 38 - RI to be completed.
Sites 11, 12, 26, 27 and 38 - RD and RA should begin.
Sites 25 and 30 - RD will be completed.
Sites 32, 33 and 35 - RD completed and RA should begin.
Site 44 - PA/SI will be completed.
UST 2 - SA will be complete. RC is expected.
USTs 15, 20, 21, 22 and 23 - CAPs will be completed.

FY 98

Site 41 - RI to be completed.
Sites 15, 40 and 42 - RI and FS to continue.
Sites 6, 11, 12, 17, 25, 26, 27, 30 and 38 - FS, PP, and ROD to be completed.
Sites 2, 9, 29 and 34 - RI/FS and ROD to be completed.
Sites 11, 12, 26 and 27 - RD and RA continues.
Site 9 - IRA will be completed.
Sites 36 and 38 - RD will be completed. Both sites to be under RA.
UST 17 - LTM is complete.
UST 15 - Design and RA will be completed.

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	29	1	1					
RI / FS	1	4	10	13	7			3
RD			5	2		3	1	22
RAC					7		3	23
RAO								13
IRA	5(5)	3(4)		1(1)			1(1)	1(1)
RC	1	4			5		3	25
Cumulative % RC	3%	13%	13%	13%	26%	26%	34%	100%

RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA								
RFI / CMS	1							
DES	1							
CMI	1							
CMO								1
IRA	1(1)							
RC								1
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	10	1	1				1	1
CAP			5				2	2
DES				1	2	1		5
IMP				1		2	1	5
IMO								5
IRA	3(3)	1(1)						
RC	3	1	1				1	8
Cumulative % RC	21%	29%	36%	36%	36%	36%	43%	100%

Pensacola Naval Technical Training Center, Corry Station
Pensacola, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 604 Acres
Funding to Date: $166,000
Estimated Funding to Complete: $1,063,000

Base Mission: Trains Navy pilots
Contaminants: Metals, pesticides/herbicides, POLs

Number of Sites:

CERCLA:	4
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	4

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	1
Medium:	0	Not Required:	0
Low:	2		

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	4							
RI / FS				1				3
RD								
RAC								
RAO								
IRA								
RC				1				3
Cumulative % RC	0%	0%	0%	25%	25%	25%	25%	100%

Saufley Field Naval Air Station
Pensacola, Florida

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 866 Acres
Funding to Date: $50,000
Estimated Funding to Complete: $6,456,000

Base Mission: Basic training for Naval aviators
Contaminants: POLs

Number of Sites:

CERCLA:	5
RCRA Corrective Action:	0
RCRA UST:	1
Total Sites:	6

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	0
Medium:	1	Not Required:	0
Low:	4		

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	5							
RI / FS								5
RD								5
RAC								5
RAO								1
IRA								
RC								5
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA								1
CAP								1
DES								1
IMP								1
IMO								
IRA								
RC								1
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

WHITING FIELD NAVAL AIR STATION
MILTON, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 2,560 Acres
Funding to Date: $17,635,000
Estimated Funding to Complete: $67,316,000

Base Mission: Provides naval aviators training in basic instruments, formation and tactic phases of fixed-wing and propeller-driven aircraft; basic and advanced helicopter training

Contaminants: Pesticides, PCBs, volatile organic compounds, heavy metals, chlorinated hydrocarbons

Number of Sites:	
CERCLA:	38
RCRA Corrective Action:	0
RCRA UST:	6
Total Sites:	44

Relative Risk Ranking of Sites:			
High:	22	Not Evaluated:	0
Medium:	5	Not Required:	10
Low:	7		

NPL

Sites Response Complete: 10

EXECUTIVE SUMMARY

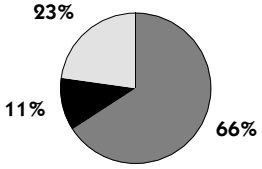
Whiting Field Naval Air Station (NAS) includes the NAS and Outlying Landing Field (OLF) Barin. Whiting Field NAS is located in Florida's northwest coastal area, approximately seven miles north of Milton and 20 miles northeast of Pensacola, Florida. Land bordering Whiting Field NAS consists primarily of agricultural lands to the northwest, residential and forested to the south and southwest; the borders are forested land. Whiting Field NAS is on a 2,560 acre tract of land that is divided into North Field and South Field. The North Field is used as a fixed-wing training base and South Field is used for helicopter training. Typical air station operations that contributed to contaminated sites on the facility include paint stripping, aircraft and aircraft parts cleaning, operation and maintenance of the aircraft and fire fighting training. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, maintenance area, Underground Storage Tanks (USTs), fuel pits, fire training areas and drainage ditches. Current operations include pollution prevention technologies to prevent further contamination. The driving force for placing the installation on the National Priorities List (NPL) was the discovery of a plume of volatile organic compounds (VOCs) affecting two base drinking water wells. The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY98.

OLF Barin is located in Baldwin County, Alabama, 40 miles southeast of Mobile, Alabama, approximately ten miles northeast of Gulf Shores, Alabama and 35 miles west of Pensacola, Florida. OLF Barin was commissioned in 1942 as a flight training and indoctrination center and closed in 1959. While the air field was in use, numerous types of solvents, oils and fuels were used for cleaning and maintaining airplanes and vehicles; the quantities of contaminants used are unknown. The field remained unused until 1985, when Whiting Field NAS began using the field as a practice landing strip. Little, if any, hazardous materials are now used, generated or disposed by the airfield. The airfield no longer conducts airplane and vehicle maintenance or has the capability to supply fuel to them. In 1988, the Preliminary Assessment (PA) of OLF Barin was begun in response to the discovery of contamination in two drinking water wells.

The major pathways for contamination from Whiting Field NAS include surface runoff and groundwater movement through the surficial sand and gravel aquifer to the receiving waters of Clear Creek and Big Coldwater Creek. The most significant issue at Whiting Field NAS is the groundwater contamination. Releases of VOCs have primarily occurred from installation landfills and contamination has migrated from the soil into the groundwater. There are two organic solvent TCE plumes with a benzene, toluene, exobenzene, xylene (BTEX) plume above each. Two of the three supply wells on the base are contaminated with the organic solvent TCE. For risk reduction, after the discovery of the groundwater contamination at Whiting Field NAS, granular activated carbon (GAC) filters were installed to remove the organic contaminants from the water supply. Although this is not a permanent remedial measure, following the installation of the filters and a monitoring system, the State of Florida allowed the use of the well water by NAS Whiting personnel.

A Technical Review Committee (TRC) for Whiting Field NAS was established in 1989. The TRC for OLF Barin started in 1992. For greater community involvement at Whiting Field NAS, the TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The Administrative Record and Information Repository were established in August 1992 and are maintained at the Naval Facilities Engineering Command's Southern Division (SOUTHDIV), Charleston, South Carolina.

There are 38 CERCLA sites (29 at NAS and 9 at OLF). At the end of FY96, there were 7 RC (1 at NAS and 6 at OLF). Of the six UST sites, three have received a No Further Action approval from FDEP (USTs 3, 4 and 6). UST-02 will be investigated in mid-1997. Funding has been approved for the investigative phase only. UST-05 will have a state approved remediation system installed by December 1996.



Current Status Of Sites

Studies Underway	29
Cleanups Underway	5
Response Complete	10
TOTAL	44

WHITING FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The three major groundwater aquifers within the region are the surficial sand and gravel aquifer, from which virtually all local groundwater is drawn; the Upper Floridan limestone aquifer and the lower Floridan limestone aquifer. The Floridan aquifer is separated from the overlying surficial aquifer by a relatively impermeable Pensacola clay, which tends to keep pollutants from migrating to the lower aquifers. The groundwater contamination is made more complex by the depth to groundwater (90 to 120 ft) as well as no known confining layers and numerous clay lenses creating perched water tables. Because the organic solvent TCE is a Dense Non-Aqueous Phase Liquid (DNAPL), a "sinker", the existing geology creates a true challenge to the Navy for remediation.

The major pathways for contamination from Whiting Field NAS include surface runoff and groundwater movement through the surficial sand and gravel aquifer to the receiving waters of Clear Creek, which runs next to the perimeter of the base and Big Coldwater Creek. Both Clearwater Creek and Big Coldwater Creek drain south to the Black Water River. On average, over half the flow in the rivers and creeks in the area is from groundwater seepage. Erosion is also a concern because it may expose buried material and allow direct contact with surface runoff.

At OLF Barin the pathway for contamination migration is through surface drainage to the creeks on either side of the base, particularly toward Sandy Creek to the east and southeast of the airfield. Contaminants that reach the creek can travel downstream in surface flow toward Wolf Bay and the Gulf of Mexico. Subsurface contaminants could infiltrate to the local drinking water aquifer in recharge areas.

NATURAL RESOURCES - There is a widely spread, rural population in the area surrounding Whiting Field NAS. The private residences in the area have private wells. Aquatic organisms in Clear Creek and Big Coldwater Creek are potential receptors. Bio-accumulation in the tissues of these organisms could be conveyed to predators that inhabit this drainage system. Both creeks are classified by the Florida Department of Environmental Regulations as Class II Water-Recreation, Propagation and Management of Fish and Wildlife. There are many species of plants and animals listed as endangered, threatened or rare that could potentially be present or inhabit the area of Whiting Field NAS but the base area provides little natural habitat for these animals, so few are expected to actually inhabit the base. The animals include: Wood Stork, Eastern Indigo Snake, Alligators, Gopher Tortoises, Red-cockaded Woodpeckers and Peregrine Falcons.

RISK - A Baseline Risk Assessment for Ecological Assessment at OLF Barin, using EPA guidelines for CERCLA sites, was completed in FY94 and a Baseline Risk Assessment Workplan for Whiting Field NAS was done in FY95. A full Baseline Risk Assessment for several CERCLA sites (Sites 1, 2, 9-18 and 31) is currently being conducted.

The Navy completed a Relative Risk Ranking for the installation. Of the 44 sites at the installation (NAS and OLF combined) 22 sites received a "high" Risk Ranking. The overwhelming majority of the sites received the high ranking due to contamination of the groundwater and its use as drinking water. Landfills and disposal sites are the greatest offenders. Solvents, waste oil and fuel, waste paint and thinner and general construction debris were deposited on these sites. The groundwater in the areas were contaminated with VOCs, Semi-volatile Organic Compounds (SVOCs), metals, petroleum products and inorganics above Federal and State acceptable levels. The groundwater near the transformer disposal site contained an unacceptable level of the chemical additive PCBs.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a preliminary visit at Whiting Field NAS in FY95. Whiting Field received a rating of "E", which denotes no immediate health hazards or any current human exposures. Because of the "E" ranking, NAS Whiting is a low priority for receiving a full public health assessment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Whiting Field NAS and OLF Barin were proposed for the NPL on January 18, 1994 and were placed on the list on May 31, 1994, with an HRS score of 50.00. The installation has determined that the VOC groundwater plume is affecting two of the three installation drinking water supply wells. The contaminated groundwater was the driving factor for placing the installation on the NPL.

LEGAL AGREEMENTS - The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY98. A Site Management Plan is in the draft form and will be put in place when the FFA is signed.

PARTNERING - A partnering agreement between EPA, State of Florida regulators, the contractors for the station projects, the installation Remedial Project Manager (RPM) and NAVFAC SOUTHDIV RPM has been initiated and is underway but is not formally implemented. The partnering arrangement has already proved beneficial. In order to speed up the phases, Site Inspections (SIs) are being approached with an intended remediation method in mind. SI methods are discussed and then one method is agreed upon by the partnering team members before SI begins. Time is not wasted investigating various remedies that are known to not fit the current situation.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The TRC for Whiting Field NAS was established in 1989 and held annual meetings through FY95. A TRC for OLF Barin was established in August 1992. With a need for greater community involvement in the base cleanups, the Whiting Field NAS TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The RAB has monthly meetings and has conducted site tours for its members. The membership, solicited from the communities of Milton and Pensacola, Florida, is made up of local government officials, professionals and retirees, school system and installation employees. With the recent formation of the RAB, the community has become involved at the base with a high interest in the groundwater contamination and the possibility of off-site migration and the impact it may have on a large wetland, Clear Creek Floodplain, to the southwest of the base.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) for Whiting Field NAS was completed in October 1990 and was updated in 1995. A CRP for OLF Barin was completed in FY93.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in August 1992 and are maintained at the NAVFAC's SOUTHDIV, Charleston, South Carolina as well as at NAS Whiting and OLF Barin.

WHITING FIELD NAS
HISTORICAL PROGRESS

FY85

Sites 1-18 and 29-33 - Initial Assessment Study (IAS) (equivalent to Preliminary Assessment (PA)) for 23 CERCLA sites at Whiting Field NAS completed.

FY87

Sites 1-18 and 29-33 - An SI at 23 sites detected groundwater contamination at some sites and concluded that many monitoring wells were not located downgradient of the intended study site. Additional investigation was required to accurately assess hydrogeologic and chemical contamination conditions.

FY88

OLF - Preliminary Assessment at OLF Barin was begun in response to the discovery of two drinking water wells contaminated with trans-1, 2-dichloroethylene, tetrachlroethylene and trichlorethane. GAC filters were installed to remove the organic contaminants from the water supply.

FY89

Base-wide - To reduce accidental human exposure to contamination, warning signs were posted at hazardous sites.
Sites 1-18 - RI/FS activities began at CERCLA sites at Whiting Field NAS.

FY90

Site 124 - An SI was completed for one OLF Barin site.

FY91

Sites 119-123 and 125-128 - An SI was completed for nine CERCLA sites at OLF Barin.

FY92

OLF - An SI at OLF Barin detected soil contaminated with mercury, lead and methylene chloride. RI/FS activities at the OLF Barin began.
Sites 29-33 and 39 - RI/FS begun at six Whiting Field NAS sites.
Site 39 - IAS for one CERCLA site at Whiting Field NAS started.
Site 127 - RI/FS started at one OLF Barin site.
USTs 1- 6 - Removal actions of tanks and soil at all the USTs were completed. During the removal action, the installation determined that seven sites had subsurface petroleum contamination and would require further assessment. During the assessment of the UST sites, chlorinated hydrocarbon contaminants and 19 tanks were identified to be present on the sites.

FY94

NAS - Completed several RI/FS Technical Memorandums: NO 1, Geologic Assessment; NO 3, Soils Assessment; and NO 4, Hydrogeologic Assessment.
OLF - A Baseline Risk Assessment and Residential Well Sampling report for OLF Barin were completed. Completed additional RI/FS Technical Memorandum: NO 1, Water and Sediment; NO 2, Geology and Hydrogeology; NO 3, Soils; NO 4, Groundwater and NO 5, Data Summary.
Sites 34-38 - IAS for five CERCLA sites at Whiting Field NAS started.
Site 8 - Completed RI/FS for Site 8; Florida Department of Environmental Protection issued a No Further Remedial Action Planned (NFRAP).
USTs 4 and 6 - Site Assessments (SAs) is complete and site is RC.

FY95

NAS - Three projects scheduled for accelerating cleanup of Whiting Field NAS sites were canceled due to rescinding of funds; two Interim Remedial Actions (IRAs) and a baseline groundwater model project to be used for RD of groundwater cleanup.
NAS - Completed final RI/FS Technical Memorandums; NO 5, Groundwater Assessment and NO 7, Phase 111B Workplan. Numerous interim documents were produced for both Whiting Field NAS and OLF Barin.
NAS - ATSDR preliminary visit was performed at Whiting Field NAS. ATSDR will return in FY96 to do full public health assessment. A Baseline Risk Assessment Workplan for Whiting Field NAS was complete. Site 8 is RC.
OLF - Completed Investigative Derived Waste (IDW) Management Plan and Technical Memorandum Addendum for OLF Barin.
Sites 119 and 124 - Completed Performance Criteria Plans for two OLF Barin sites.
Site 119 - Began an Interim Removal Action (IRA) for tank removal.
Site 124 - Began an IRA for soil removal. Completed the RI/FS. Began an Remedial Design (RD).
Sites 121, 123, 127 and 128 - Completed RI/FS and received No Further Action (NFA) Decision Documents for four OLF Barin sites. All 4 sites are RC.
UST 3 - Corrective Action Plan (CAP) for one UST site was completed.
UST 5 - CAP is complete and began RD.

PROGRESS DURING FISCAL YEAR 1996

FY96

FFA and SMP undergoing regulatory review and negotiation. Not expected to be signed until FY98. Delayed from FY96 signing due to a desire to coordinate multiple FFA negotiations.
NAS - Site 30 - Groundwater investigation at Site 30 began. Objective is to delineate the vertical and lateral extent of the TCE plume.
NAS - Sites 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 31 - Baseline Risk Assessment workplan completed and Baseline Risk Assessment started. The 13 RI reports were delayed until FY97 due to late start on full funding in FY96.
Site 17 - An IRA for soil removal was completed.
OLF - Site 119 - RI/FS completed.
Sites 119 and 124 - IRAs and RDs are complete. RAs were initiated in September 96. The Removal Action at Site 119 includes removal of six abandoned wash rack underground storage tanks and contaminated soil removal. The Removal Action at Site 24B includes removal of the fire training pit, liner and contaminated soil.
OLF - Sites 125 and 126 - RI/FS is complete and NFA received. Sites are RC. Site 120 RI/FS is complete.
UST 5 - RD is complete. IMP was begun, with completion scheduled for FY99.

WHITING FIELD NAS
PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

FFA and SMP undergoing regulatory review and negotiation.
Sites 1, 2, 9, 10, 11, 12, 13, 14, 15 and 16 - RI reports, RI/FS and Baseline Risk Assessment for 10 CERCLA sites will be complete. Site 12 expected to be listed as NFA at that time and become RC.
Sites 17, 18 and 31 - RI reports will be complete. Baseline Risk Assessment will be complete and RI/FS reports will be submitted with final approval in 1st quarter FY98.
Site 32 - Soil and groundwater investigation for Site 32 will begin.
Sites 30 and 31 - Soil investigation will begin.
Site 30 - Remedial Design will begin for groundwater investigation.
Sites 119 and 124 - RAs will be complete. Sites will be RC.
Site 122 - RI/FS is complete.
UST 1 - Expected to receive an RC.
UST 2 - SA will be complete.

FY 98

FFA will be signed. SMP will be implemented.
Sites 17, 18 and 30 - RI/FS will be complete.
Site 30 - RD will be complete. RA will be complete and LTO will begin for groundwater remediation.
Site 32 - RI/FS will be complete and Remedial Design for groundwater investigation will begin.
Sites 31 and 33 - RI/FS will be complete.
UST 2 - CAP will be completed and RD will begin.

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	33				1			4
RI / FS	6	4	11	6		2	1	8
RD		2		1	2		1	23
RAC			2	1		1		25
RAO								11
IRA		3(3)						
RC	5	2	3			1		27
Cumulative % RC	13%	18%	26%	26%	26%	29%	29%	100%

UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	2		1					
CAP	2			1				
DES		1			1			
IMP					1			1
IMO								2
IRA								
RC	3		1					2
Cumulative % RC	50%	50%	67%	67%	67%	67%	67%	100%